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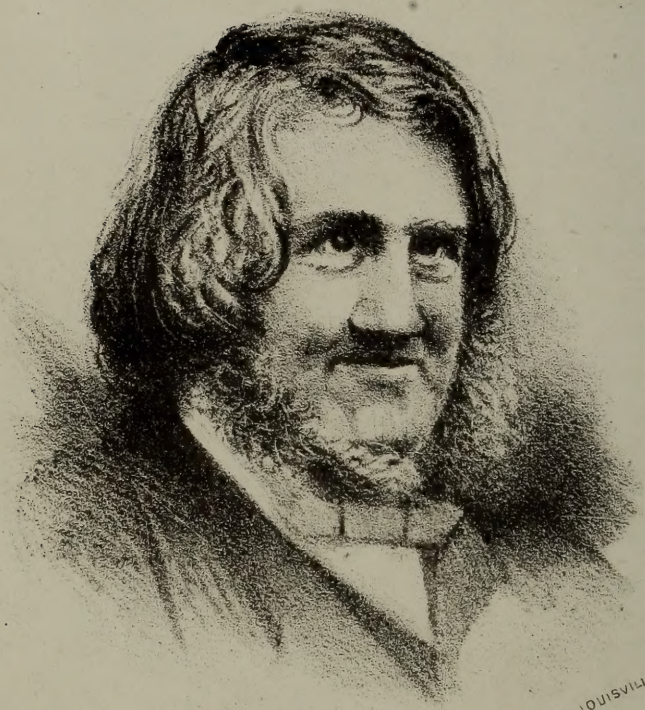

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—GUN-SHOT WOUND OF THE BRAIN: PORTION OF THE BALL FOUND SEVEN YEARS AFTERWARD ON THE TENTORIUM CEREBELLI: WITH A NOTICE OF SOME OF THE MORE RECENT CASES ANALAGOUS TO IT. By PAUL F. EVE, M.D., now of St. Louis, Mo. (Read before the Tennessee State Medical Society, and Ordered to be Published.)

Mr. J. K., of Polk county, Missouri, æt. 33 years, and by occupation a farmer, was shot at the battle of Pea Ridge, 5th day of March, 1862, seven years ago, directly above the right external ear, and near the squamous suture. He recollected, on recovering consciousness, that the last order given by his commander was to "cease firing and retire," and found himself striving to rise from his elbow and knees upon which he had fallen. He escaped being made a prisoner, and was treated exclusively by a hospital steward, and his Colonel's wife—a lady well-known to be one of the best of women. The patient states that no surgeon or doctor examined his wound, and he could not say whether he was struck by a ball or piece of shell. We unfortunately could get no history of the case during the first year after he was wounded, when he became epileptic. It is highly probable that he

had extensive laceration, followed by inflammation, with suppuration and disintegration of the brain, to account for the great loss of cerebral substance made evident after death, and not suspected by those who examined him professionally in St. Louis. Neither he nor the friend who accompanied him could describe what his symptoms were during this long and important period of his case. The epileptic attacks, continuing to increase in frequency, coming on at irregular intervals, and without premonition, but generally when asleep, he left home to seek relief, and had a paroxysm while on the journey in the stage-coach.

He was examined by several professional gentlemen, all of whom concurred in the opinion that an operation was clearly indicated, and that it alone promised permanent relief. Under quite an irregular cicatrix at the site of the wound a portion of the depressed bone was felt, apparently of the diameter of a musket-ball, ranging horizontally, or from before backward, and opposite the helix of the right ear. There was no paralysis whatever, nor any difference observed in the pupils. I could not ascertain if one side of the body was more agitated than the other, during the convulsions of epilepsy.

The 26th of January, at 12 M., weather pleasant, while in the reclining position, and without inducing anæsthesia, using the largest crown, the patient was trephined before the class. In probing the furrow made by the saw to ascertain its depth, the instrument suddenly dropped into a cavity; and when the disc of bone was removed, a probe, then a female catheter, and finally the *fore-finger entered its full length, traversing the ventricle of the right hemisphere, recognizing the posterior cornu, and then carried forward into the anterior one. I passed the index finger next into the ventricle of the left hemisphere, still without meeting obstruction, or detecting any foreign body to my great*

surprise. Prof. Drake McDowell, who was efficiently assisting in the operation, now made a similar exploration and remarked to the class, that never before had his finger been so deep in the brain of a living man. Announcing the belief that a foreign substance, in all probability, was lodged in the brain, and that the prognosis of so grave a case was of course exceedingly unfavorable, the patient was removed to his room. These manipulations were made with great care and gentleness, and were followed by neither pus nor cerebro-spinal fluid. The patient bore the operation most heroically, never uttering a word unless spoken to. In the course of an hour or two he had a convulsion, then a succession of them, and died five hours after the operation was performed.

A post-mortem inspection was kindly granted, and made by my talented young friend, Dr. Charles McDowell, who found resting on the *tentorium cerebelli of the left lateral hemisphere, a small piece of a minie ball.* It weighs only six grains, has three groves, (cannelures) upon its surface, is quite irregular and rough in shape, though flat, and is unmistakeably lead. There was no pus nor serum discharged; no choroid plexus, or evidence of encephalitis detected; nothing but the presence of this small foreign body, and the large hole made by the destruction and loss of brain-substance to account for the epilepsy.

At the last meeting of this Society, it was made my duty, at the request of the presiding officer, to read a paper on "Injuries of the Spine," and having again been asked to contribute something to our present annual proceedings, the case now before us suggests the kindred subject of *injuries of the head.* But this would open up a field too comprehensive; too full of interest, and would occupy too much time for an occasion like the present.

If twenty-five years ago, Velpeau could produce in a week an octavo volume of 270 pages on "trepannation," (as the French still term the operation of trephining the skull), as one of his claims to become the successor of Professor Baron Boyer, in the School of Medicine, in Paris, it certainly ought not to require very much study now-a-days, to prepare an article on the general topic of wounds of the head. It is my purpose, therefore, to restrict the present paper to brief notices of some of the most interesting cases similar to the one here reported; that is, to gun-shot wounds and those alone, in which the ball or portion of it has lodged in the brain.

In the paper read before the Society, and published last July in the American Journal of the Medical Sciences, the statement that death does not necessarily follow a division of the spinal cord was proven indisputably to be true, and while one might be expected, (and no doubt it would be interesting,) to determine with how little brain one may live, yet as this would involve speculations on physiological doctrines, phrenology, and it may be psychology, it is at once rejected. That the mere existence of human life is consistent with the almost total destruction of both hemispheres of the cerebrum, or with extensive injury to the cerebellum is an admitted fact; but a wound of the medulla oblongata is unquestionably fatal; this, therefore, may be considered the only true *centrum-vitale* in man.

The case found reported most like my own was published by Dr. W. B. Trull, then Assistant Surgeon U. S. Vols., and occurred to a patient brought to the Cumberland Hospital of Nashville, (wounded at Franklin, Tenn.,) 30th of November, 1864. He belonged to the 128th Indiana Regiment, was struck by a musket ball near the right parietal prominence, driving a fragment deep into the brain; the missile itself escaped, except a small

portion split off, which penetrated both lobes of the cerebrum, (intended I suppose for hemisphere). He gave an account of how he was wounded, talked intelligently, had no paralysis, and only complained of slight headache. After thirty-six hours, he grew worse, became indifferent to surrounding objects, was then comatose, and died on the third day. The autopsy exposed firm coagula, spiculæ, and a piece of lead lodged in the left "lobe," (which must be meant for hemisphere), near the "Island of Reil," and just above the corpus callosum. A large quantity of cerebral substance is said to have been displaced; but the weight of the portion of lead is not given.

In the Confederate States Medical and Surgical Journal, Vol. 1, No. 3, March, 1864, Surgeon J. L. Cabell, then in charge of the General Hospital, Charlottesville, Va., reported* eighteen gun-shot wounds of the head. The results furnished in these, he says, remarkably differ from those announced by Dr. Macleod in his notes on the Surgery of the Crimean war; both as to the mortality and the danger incident to the use of the trephine. Of these eighteen cases, four only terminated fatally, and one of them, from rupture of the longitudinal sinus, which was injured by a spicula of bone, during a fit of coughing; the result of one, was uncertain, and thirteen recovered, or were furloughed. In the case of Maj. Morris, 14th Pennsylvania regiment, 30 years of age, wounded at the second battle of Manassas, August 30th, 1862, the ball from a common musket lodged; having entered near the left parietal protuberance. As it was supposed he could only live a few hours, the patient was not examined by a surgeon, but his brother removed with his fingers a large piece of bone. He lay unconscious five days, when having recovered his senses, he was found paralysed on the right side. Three months after the re-

*Republished in this Journal, January, 1866.

ception of the wound the *ball was removed;* several pieces of bone were extracted, the membranes were found extensively lacerated, and a portion of the brain was lost. The patient recovered very slowly and spoke with much difficulty; the pulsations of the brain could be seen and felt distinctly through the cicatrix in the scalp. I have received the closing history of this interesting case from one of the officers of the Major's regiment. The letter is dated 15th of March, 1869, and is written from Clarksville, Tenn., near which place the patient died, July, 1865, a few weeks after he reached his old home. After he was wounded, he became epileptic, the paroxysms occurring about once a month, and oftener if under excitement. They were very severe, and he died in one of these attacks. He was also completely paralysed on the right side, and his mind greatly impaired, almost destroyed.

In the fourth number of this same Journal, is reported eleven cases of compound fracture of the cranium by gun-shot wounds, treated at the Chimborazo Hospital, Richmond, Va., and though nearly all of them of a very grave character, only two of the eleven proved fatal.

In case third, private H. Thompson, Co. D, 16th regiment Georgia vol's., wounded at Chancellorsville, May 3d, 1863; a buck-shot was found imbedded a quarter of an inch in the base of the anterior portion of the middle lobe of the left hemisphere of the brain. It entered the left temple just above the zygomatic process, and passed through the greater wing of the sphenoid bone. A complete sac had invested the shot, which was surrounded with pus. When hit, this patient complained of much pain in the wound, to which cold applications were made, and purgatives, etc., etc., were administered. On the twelfth day, May 15th, his mind became confused, he had slow respiration, stertor, but no dilatation of the

pupils; on the 30th he became suddenly comatose, and died on the twenty-eighth day.

Of the 1108 patients who passed under my charge during the first month after hospitals were established in Atlanta, Ga., viz., up to April, 1862, and of the 1686 treated the first nine weeks in Columbus, Miss., after the battle of Shiloh this same year: of these 2794 cases only the following one belongs to the class of wounds now under consideration. The card holding the specimen contains the following account of it: Columbus, Miss., May 27th, 1862—Portion of a shrapnel-shot which struck a Confederate soldier, at Shiloh, on the occipital region of the head near the lambdoidal suture to the right of its junction with the sagittal, *burying itself, with fragments of bone, in the brain.* The patient died at the end of three weeks from cerebritis et meningitis, and it is possible, may be probable, might have been saved by an early operation. The piece of lead removed weighs 30 grains and the fragments of brain about as many more.

In Circular No. 6, War Department, Surgeon General's Office, Washington, November, 1865, on gunshot wounds of the head, the number reported from the commencement of the war to 15th of October, 1864, is 5046. Of these, the gunshot fractures and injuries of the cranium, including the perforating and penetrating with depressed fractures, the fractures without known depression, and the contusions of the skull, resulting in lesions of the encephalon, numbered 1104 cases. Of the number of those in which the results have been ascertained, 575 died and 199 recovered. In 107 trephined, 60 died and 47 recovered. Of 114 in which bone or foreign substance was removed without using the trephine, 61 died and 53 recovered. Under operative procedure thus instituted, the recoveries were 45 per cent., while of the cases treated by expectancy the ratio of recovery was only 20 per cent.

In the United States Army Medical Museum there are 365 specimens of gunshot injuries of the skull and its contents. In the case of corporal Bemis, company K, 12th Massachusetts regiment, Surgeon Vanderveer reported that on the 5th of February, 1865, he was severely wounded at Hatcher's Run, near Petersburg, Va. The ball entered a little outside of the frontal protuberance, passing backward and upward, removed a piece of the squamous portion of the temporal with brain-substance, and lodged. When he entered the hospital, brain was still oozing from the wound, the respiration was slow, pulse 40, had paralysis of the right side, and was totally insensible. On the 8th of February, three days after he was shot, the *ball was removed from the substance of the left hemisphere.* The paralysis soon disappeared. The patient was transferred to Fort Richmond, New York harbor, and recovered perfectly, the mental and sensory faculties being unimpaired.

In another instance a corporal, æt. 29, of the same regiment, was wounded at Fredericksburg, December ber 13th, 1862, and brought to Baltimore six days afterward. The humors of the right eye had been evacuated and he had a slight opening through its lower lid. As no one suspected a ball was lodged in his brain, the man was permitted to walk about the city with a hospital pass. Occasionally he would complain of pain over his left eye, and February 6th, 1863, he had a chill, followed by fever. Delirium was noticed in a few days, the patient became comatose, and died on the 15th of February, two months after he was wounded. The autopsy revealed *a conical musket-ball wedged between the sphenoidal and left orbital plate of the frontal bone.* This bone was fractured through the superciliary ridge. Over the ball under the anterior lobe of the left hemisphere was an abscess.

A sergeant of the 19th Maine regiment was struck by

a musket ball on the right side of the head, in the engagement on the Rappahannock, February 6th, 1864. The projectile was smoothly cut in two ; one half lodged under the scalp, while the other passed into the brain. The patient remained perfectly rational until the fifth day, February 11th, when his mind wandered at times. Surgeon Justine Devinelle *extracted the portion remaining in the brain* and found its track communicating with the right lateral ventricle. After the chloroform passed off the patient continued rational for about twenty-four hours, when coma supervened and he died on the 15th of February. The left ventricle was found filled with pus.

In this report of the Surgeon General is added the remark that while fatal results after trephining are very great, the examples of success are yet numerous. Surgeon D. W. Bliss alone reported eleven successes after the use of the elevator or trephine. The impression is produced that this operation during the late war was attended with a larger measure of success than the previous experience of military surgeons would have led us to anticipate.

In the tabulated cases of gunshot injuries of the head in this same report, I find two deserving special notice.

First Lieut. Burd, 4th Maine regiment, æt. 26, was admitted, 20th February, 1862, into a prison in Richmond, wounded at left frontal eminence with portion of a *musket ball lodged in the substance of the brain*, at Bull Run, July 21st, 1861. A portion of the projectile had been removed on the field, and seven months afterward the fistulous orifice of the wound was dilated and *the remaining portion of it extracted from within the cranium.* He returned to duty March, 1863, und was perfectly well when he rejoined his regiment.

In the case of Charles W., 14th Virginia infantry, 22 years of age, *conoidal musket ball* entered the left tem-

poral bone one inch from the meatus auditorious externus, and *lodged on the side of the sella turcica.* Part of the ball, about one-third, was removed by forceps from under the scalp in the frontal region. The patient, when admitted at Grafton, Va., 2d November, 1864, had paralysis of the second, third, fourth, fifth, sixth, and seventh nerves of the left side; general health was good; no pain in head; his pulse, skin, and bowels natural; consciousness perfect; his articulation thick but improving. In removing him to Grafton he drank freely of whisky, which was followed by a violent chill, attended by convulsions, strabismus of the right eye, and coma, and he died without reaction. The autopsy showed the greater portion of the *conoidal musket ball resting against the sella turcica*, the encephalon extensively disorganized, and the ventricles and nearly the whole of the base of the brain bathed in pus.

Acting Assistant Surgeon Dr. H. C. May, U. S. A., reported in the American Medical Times, April, 1864, the case of a patient in the Missouri artillery, who was knocked down by a shot, but soon recovering himself walked to the hospital with blood flowing freely from his wounded head. He was examined by several surgeons, all of whom said they could readily define with the probe the outlines of *a large flattened leaden bullet in the substance of the brain.* It had perforated the cranium posterior to the coronal suture on the left side and about three inches from the mesian line, and had passed in the distance of about two and a half inches. He remained about nine weeks in the hospital, when he was discharged from the service; was living and well nine months afterward and had moreover passed through an attack of camp fever.

Dr. John Ashhurst, Jr., then Surgeon U. S. A., Cuyler Hospital, Philadelphia, reports, in the American Journal

of the Medical Sciences, vol. 50, October, 1865, the case of S. S. B. Sholl, private, company —, 82d Pennsylvania regiment, æt. 21, who entered the hospital on May 31st, 1864, with a wound in the head, received at Spottsylvania. When shot, he fell stunned and remained insensible for some time. He appeared now much depressed and exhausted. The ball had entered over the left orbit and was apparently cut out from a corresponding point on the right side. The frontal sinuses, with the integuments, seem alone to have been injured. The patient had headache, obstinate constipation, vomitings, insomnia, and great jactitation. In spite of all treatment, eighteen days after admission into the hospital, he was found almost comatose, with left pupil contracted while the right one was dilated, but both insensible to light. He could be roused with difficulty, would then relapse into an unconscious state, and died that day. The autopsy, although it was June, was not made until forty-five hours after death. The os frontis was found fractured; the ball had been split into two portions, as had occurred in a case in the Crimea; one had been removed from beneath the integuments of the forehead; the other, having entered the cavity of the cranium, splintered the *crista galli and was found lodged over the ethmoid cells.* Several spiculæ of bone had penetrated the membranes and injured the brain, and an abscess existed containing three ounces of greenish pus mingled with broken-down brain-substance.

In the Nashville Journal of Medicine and Surgery, vol. 3, p. 81, may be found the account of a case in which the crista galli was removed, and my patient lived six days. It may be the only instance on record of this operation.

In Vol. 1st, 1868, Pennsylvania Hospital Reports, T. H. Andrews, M. D., of Philadelphia, has an interesting

article on penetrating wounds of the skull, but which was not seen until a few days ago, and after this paper was in preparation. He has been kind enough to include in his collection of cases four taken from my volume of "Remarkable Cases in Surgery." The occasion of Dr. Andrews' valuable contribution to injuries of the head was the case of a lady in Philadelphia, recently shot accidentally by her husband. The ball, weighing nearly fifty grains, entered the cranium in the left temporal region, about a quarter of an inch in front of the junction of the helix wifh the tragus of the ear. He found her, fifteen minutes after the occurrence, seated in a chair as if nothing unusual had transpired. She stated that she was about ten feet distant from the pistol; did not experience any disturbance in the brain, in fact did not know she had been wounded until she felt the blood trickling down the left side of her face. A probe now introduced three and a half inches, going inwards, downwards, and backwards into the brain, produced an epileptiform convulsion and Dr. Hewson was called in consultation. It was agreed to pursue the expectant plan of treatment. After sixty-two days this patient left the house, and in four months and a half was quite well, enjoying good health, and without any change in her intellectual faculties. The remark is added that this case is not yet considered free of all danger, since the uncertainty of the precise locality of the ball, however small it may be, or the presence of any foreign substance in the brain, may hereafter develop unpleasant symptoms, or even lead to a fatal result.

I derive, too, from the same author of this publication, the fact communicated to him, that Dr. J. A. Buchanan, of Philadelphia, while Acting Assistant Surgeon, U. S. A., had treated the case of a colored man wounded at Cold Harbor, Va., June 3, 1864, by a *musket*

ball entering the brain at the squamous portion of the temporal bone. He passed through a trying ordeal, had great discharges of pus with *brain-substance*, but finally recovered without disturbance of the intellectual faculties and was able to return to his regiment three months after being wounded.

Dr. W. G. Small, Acting Assistant Surgeon on the field of Gettysburg, 2d July, 1863, saw a soldier in whom a ball penetrated the os frontis and lodged. The brain could be seen pulsating through the wound, yet he nevertheless convalesced and experienced no great trouble either physical or mental. Seventy-one days after the injury he had headache, vomitings, &c., and died in three days more. It was then discovered that the ball had perforated the right orbit, lifted up the *anterior lobe of the brain, disorganized it*, and from this *a minie ball weighing about an ounce dropped out.*

In the 54th vol., 1867, of the American Journal of the Medical Sciences, is a lengthy and very able review of the recent works on military surgery, by Dr. S. W. Gross, of Philadelphia, in which will be found the following case of a *buckshot lodged in the cerebellum*, coming under his notice during the late civil war. It is that of a Confederate soldier of the 23d Louisiana regiment, æt. 28, wounded at Shiloh, 6th April, 1862, by a buckshot penetrating the occipital bone, below and to the right of the occipital protuberance. He was not seen until two days after he was wounded. Then he was perfectly rational, presenting a small round opening in the occipital region; but what attracted particular attention was a persistent priapism and the strongly flexed and adducted positions of the thumbs. He was not noticed again until the afternoon of the fourth day, owing to the press of business, but he had undergone no change. On the morning of the 11th of February, five days after the battle, the

patient was found dead on his back in the tent. On examination a misshapened buckshot was seen occupying the *right lateral hemisphere of the cerebellum in contact with its corpus dentatum;* there was also a small spicula in the tract of the wound, slight ecchymosis of the cerebellum and some bloody serum at the base of that organ.

Dr. Gross, in the same review, translates the case of a soldier wounded at Magenta by a ball, which passed through his shako, penetrated the vertex near the sagittal suture, occasioning paralysis and other cerebral symptoms, which, however, gradually subsided. There remained a fistulous opening until 1862, three years afterward, when, detecting a rough and somewhat movable body, he got a comrade to remove with a pair of tooth-forceps *a minie ball.*

From this review we learn that the two principal opposers of the trephine, J. Neudorfer, M.D., Professor of Surgery in the University of Prague, and L. Stromeyer, M.D., Chief Surgeon to the Royal Hanoverian Army, &c., now prefer the gouge or mallet and chisel. The former, Dr. N., has recently published the following case bearing on our subject. He served in the short Italian war of 1859, in that of the Schleswig-Holstein in 1849-50, and was with Prince Maximilian in Mexico, 1867, where this remarkable case occurred to him at Puebla. A piece of a ball made its exit by a fistulous opening *one hundred and twenty-five days* after it had occasioned complete paraplegia. There could be no doubt, says he, that *the ball was imbedded in the brain*, as the skull and membranes were opened to the extent of two and a half inches. Here, then, we have a patient with palsy, known to be caused by a foreign body lodged in the brain, with an orifice leading down to it, yet no effort was made to relieve him for four months! I know it can be said that the trephining killed my patient and this man lived

one hundred and twenty-five days without an operation being performed, but ought not all foreign matter, when accessible, to be removed from the brain producing, as this did, paraplegia for months? And are we prepared to eschew probes and forceps under these circumstances, as these gentlemen now insist we shall do?

I have now two cases besides my own, not before published. One is derived from our fellow-member, Dr. Oney; the other kindly furnished by the United States surgeon at our city barracks, which is as follows:

James ——, co. —, 56th regiment New York volunteers, came under my charge 9th November, 1863, at the United States general hospital No. 8, Beaufort, S. C. He was then 25 years old, had been a soldier of fine muscular frame, but was now much emaciated from long confinement. He was wounded, it is supposed by an Enfield ball, in the forehead, the missile entering one and a half inches above the superciliary ridges and a little to the right of the centre, while advancing on Fort Wagner, Morris Island, Charleston Harbor, 18th July, 1863. Four months afterward he came to Beaufort, and was convalescent, able to walk about the hospital grounds, and was made wardmaster soon after. On the forehead there existed an oval cicatrix with a deep depression in the centre, having a sinus communicating within the cranium and discharging a small quantity of pus. The patient states that he recollected starting on the charge, but has no knowledge of having been wounded or what transpired until about the time he arrived at Beaufort. There was no wound of exit and the general opinion was that the ball still remained in his head. When last seen he complained of vertigo, but had improved much from his former condition, when he had to grasp at objects to keep from falling. The letter is signed James F. Weeds Surgeon U. S. A., Ash Barracks, Tenn., March 24th,

1869. We have failed yet to receive further particulars regarding this case, though the above evidence renders it pretty certain that this man has a ball in his brain.

Dr. Oney's case is this: The day after the battle of Nashville, December 16th, 1864, a soldier was brought into hospital No. 14 (Academy building), with a seemingly rather slight wound at the inner canthus of the right eye. He was walking about, making no complaint, but the next day he had headache, pain through the temples, and became delirious toward night. He was comatose the third day and died that night. With two or three assistant surgeons Dr. Oney made a post mortem inspection of the head. On lifting up the brain, after removing the calvaria, they found a large *minie ball* partially imbedded in the body of the sphenoid bone, in front of the optic groove, and projecting into the *substance of the brain*. The orbital plate of the frontal and ethmoid bones and the cribriform plate of the ethmoid were shattered, and several spiculæ driven into the encephalon; one at least an inch.

I next give a case of remarkable recovery, in which too, the trephine triumphed signally, and for the case I am indebted to Dr. Andrews' researches already referred to in the first volume Penn. Hosp. Reports. The patient was Jules Gustin, æt. 21, a soldier and a hero, wounded at the Malakoff, April 8, 1855. The projectile struck him in the forehead, penetrating the cranium and *lodging in the brain*. He fell and remained insensible twenty-four hours. When sufficiently recovered he was taken to Constantinople and remained there four months. At his own request he returned to the army, fought at Traktir, August, 1855, and returned home to France after peace was made the following December, with his regiment—his wound during all this time continuing to suppurate. He was never free from a sensation of heavi-

ness in the head, an uncertainty in attitude, and, when stooping, a feeling as if the forehead was separated from the brain. He now entered the Hotel Dieu of Paris, and when examined an opening about the size of a silver quarter could be felt, which when exposed, admitted a probe and at its bottom a hard resisting metallic body was recognized. The patient was trephined and a ball removed, which was of lead and weighed 375 grains, having a smooth spherical surface, only to a small extent, the remainder being rough and irregular. This man recovered perfect health, and was well in October, 1860. We are not certain that the brain was much broken up in this instance.

Lodgment of half of a large minie-ball in the brain without the usual evidence of an opening in the cranium. This deeply interesting case is found in the history of the war in the Crimea, reported to the British Parliament and the London Lancet. Wm. Doyle, 19th regiment, æt. 19, was wounded 13th August, 1855, in the advanced trenches at Sebastopol. A minie-ball struck him to the right of the sagittal suture over the parietal bone, and as he fell senseless and motionless, was for a time supposed to be dead. When taken to the field hospital, the usual symptoms of compression were present, depressed bone was felt through the scalp and pericranium, but no opening through the skull, and the case was therefore taken to be one of ordinary fracture with depression. A small portion of cerebral matter mixed with the clot about the wound was seen, but this was supposed to have been squeezed through a fissure. By the use of the trephine the depressed bone was raised, but without relief to the patient, who sank in about three hours. An examination exposed the unexpected presence of a portion of minie ball weighing five drachms, five grains, in the anterior lobe of the right hemisphere, just above the

orbitar plate. It must have been cut in two by the sharp edge of a parietal bone and was done, as if by a knife, from apex to base. The other half is supposed to have passed on after striking the head. It is presumed that the opening made through the bone by the entering portion must have closed by the resiliency of the osseous tissue itself, or by some sudden pressure outward within the cranium. The case is certainly one of the most curious ever recorded.

Thomas Longmore, Esq., Professor of Military Surgery, and one of the authors of the Crimean war, gives in Holmes' System of Surgery, the case of an artillery soldier wounded by a minie ball near the inner angle of the left supercilliary ridge. The patient did well for a month, when coma supervened and he died. The ball was then found in a sac surrounded with pus at the base of the *anterior lobe of the brain.*

Through the kindness of my friend, Professor Joseph Joues, M.D., of the Unlversity of Louisiana, I have had the opportunity of looking into the Medical and Surgical History of the Brifish army which served in Turkey and the Crimea, during the war against Russia, in the years 1854, '55, '56. We find in it reported 72 cases of penetrating, and 19 of perforating wounds of the cranium, making a total of 91 thus wounded, of which number, in every instance, death followed. These therefore proved to belong to the most terrible and hopeless of gun-shot wounds. Indeed, many of these here recorded, the most desperate, as those resulting from large shot and shell, are, in a scientific point of view, mere curiosities. One occurred, in the 21st regiment, of depression of the whole of the posterior half of the arch of the cranium by a round shot, in which the patient lived two hours after entering the regimental hospital; in another in the 48th regiment, the posterior arch of the cranium was carried

away by a similar missile, and he lived half an hour; and in two others, minie balls penetrated and lodged, they living, one four days and the other sixty-two hours, perfectly insensible the whole time. In a patient belonging to the 88th regiment, the ball passed into the upper part of the left hemisphere, the man survived eleven days. This ball had been split in entering the skull, one portion was found hitched at the opening of the entrance, the other half lodged within the cranium at the upper back part of the head, where it was found to have fractured the internal table.

In examining these returns to the British Parliament, we find in every instance in which the ball perforated the skull and its contents, the patient died in the primary or regimental hospitals; and that with two exceptions in the penetrating wounds all were fatal in these hospitals; the two exceptional cases may for all practical purposes be considered as depressed fractures, since balls, composed as these were of soft material (lead), were arrested in their further introduction by hitching on to the edge of the broken bone. The cases were, however, nevertheless both fatal.

"The Crimean campaign has no instances to record of grapeshot or other missile lodged within the skull, followed by partial recovery. All cases of this nature were fatal, and that almost invariably within a few hours. Those in which death was longest delayed, have been already noticed with one exception, where the patient lived a month. He was a corporal of battery H of artillery, who was shot accidentally by a comrade, November 2d, the ball entering near the inner angle of the left superciliary ridge. The wound healed kindly, and the patient had not an unpleasant symptom until the evening of the 30th of November, twenty-eight days, when coma came on gradually, and he died in two days. The ball was found, on examination, lodged at the base of the left anterior lobe of the brain. A sac had formed around it which was filled with pus, and the lateral ventricles contained the same fluid."

That severe symptoms do not always immediately follow even grave injuries of the brain, we have proof in the case published by the late Sir Wm. Lawrence, of St. Bartholomew's Hospital, London. A man attempted suicide by shooting himself with a pistol loaded with two balls. One of these was removed from the jaw-bone, but the other was not found. After fourteen days the patient was seized with violent cerebral symptoms and died. The lost bullet was then discovered to have entered the cranium through the orbital plate and had traversed the hemispheres.

In the case sent by Dr. Blaquiére, from Mexico, to the London Lancet, for 1844, a ball traversed the temporal regions, of a child four and a half years old; it was not until the twenty-sixth day that cerebral inflammation arose which destroyed life in three days more. The little patient was cheerful, slept tolerably well, appetite was good, and his intellectual faculties had remained undisturbed for twenty-five days. The pistol ball was found to have passed through the antero-superior region of both hemispheres, the ventricles escaping, but the longitudinal sinus was the seat of suppuration.

In another instance, related by M. Manoury in his report of Surgeon Roux's service for the year 1841, at the Hotel Dieu, of Paris, a student shot himself in the mouth. The soft parts and jaw were lacerated, but no ball could be found. Sixteen days afterward he was so well that he asked to be discharged; in two more, head symptoms set in and a rapid death followed. The wad and ball were taken from the brain, where they had remained over two weeks, without exciting the least irritation or manifest inflammation.

Another case, showing occasionally how tardily dangerous symptoms may arise after serious and fatal injury to the cerebral substance, was strikingly illustrated in a pa-

tient put under the care of Robert Hughes, Esq., surgeon to Strafford jail and infirmary, and published by him in the Lancet, September, 1858. A prisoner, sentenced to six months hard labor, entered, having a piece of plaster covering a small wound, just above his nose, on the forehead. He continued to work for about three weeks, when he complained of headache and general malaise; and in about another week he died suddenly of symptoms of compression of the brain. On examination of the head, a piece of iron, weighing one ounce and a half, was found encysted and surrounded with pus in the anterior lobe of the right hemisphere. It rested upon the crista galli. At the inquest held over the body, it was proved that fourteen months before his death, the deceased tested a gun, when it burst and wounded him in the forehead. The frontal bone was fractured by some oreign body, supposed to have entered the head. The man never lost his consciousness, suffered no pain, and only complained of immense weight in his brain. Besides this he had no bad symptoms, slept well, ate what was given him, and required little or no surgical interference. During the two months succeeding the injury, fragments of bone and a portion of the gunlock came away, at the end of which period he resumed his usual employment.

The late distinguished author of the "First Lines of Surgery," and of the "Surgical Dictionary," Mr. Samuel Cooper, published from Ramdohr, the case of a soldier shot through the frontal sinus, in whom the *ball was found lodged in the medullary substance of the left hemisphere of the brain*, half an inch above its ventricle. This patient had lived four months after he was thus wounded, most of the time free from bad symptoms, though he subsequently fell into a lethargic state, was comatose and died.

Mr. Guthrie also noticed two similar cases. During

the war with the United States, 1814, a soldier in Canada had a ball to lodge in the posterior part of the side of his head; the wound healed and the man returned to duty. A year afterward he got drunk and fell dead in the streets of Montreal. The ball was found resting in a sac on the corpus callosum.

The other was that of a soldier seen after the battle of Waterloo, who was sent home after his wound healed, to Colchester, England, when he, too, got drunk and fell down dead in the market place. The ball in his case was deeply imbedded in the posterior lobe of the brain in a sort of cyst.

A musket ball removed from the tentorium cerebelli; patient recovered. A soldier, D. M., æt. 27, belonging to the French army, lay on the field of Waterloo three days without food, and probably insensible; was then taken to a village, and subsequently to Brussels, without anything having been done for his wound. A musket ball had perforated the anterior portion of the squamous suture of the right temporal bone passing backward and downward, lodged in the substance of the brain. With the exception of headache and partial deafness of the right ear, he seemed in pretty good health; slept well, had good appetite, the tongue clean, bowels were open, skin was cool, pulse at 72. Tbe 5th of July, twenty days after he was shot, the wound was freely opened, several pieces of bone were removed, and the ball found in the posterior lobe of the right hemisphere, resting on the tentorium. This man, though ill several times after the operation, finally recovered perfect health, and from his sensations declared that he could not tell that he had ever been wounded. The pulsations of the brain could be plainly seen, but all he complained of was slight giddiness in stooping.

An iron rod projecting through the head, yet lodging

in the brain: recovery of patient. I am indebted to Dr. M. Jewell, of Middleburg, Ohio, for this curious and remarkable case published by him in the Western Journal of Medicine, and copied into the American Journal of the Medical Sciences, July, 1868. A Frenchman, 27 years of age, while blasting for coal, was struck by a piece of gas pipe, four feet in length, near the external angle of the superciliary ridge of the right eye; passing through the bone it traversed the brain and came out an inch and a half above and behind the left ear. It is supposed to have passed through the anterior lobe of the right hemisphere, and the middle one of the left, and also to have lacerated the longitudinal sinus. The iron pipe lodged in the head after passing about half way through it, and required great force to remove it, as it was bent in the middle, which was precisely the portion retained in the brain. For several days the patient was so deeply comatose as to be almost moribund. Cold was used to his head, his bowels were kept freely opened, and the drain promoted from the wound. Spiculæ, coagulated blood, and broken-down brain-tissue, were freely discharged. About the twentieth day he showed signs of consciousness, took nourishment and appeared to comprehend what was said to him. He gradually improved and in eight weeks from the reception of the injury was able to leave his bed. It is stated that at no time did he have paralysis. Physically, he seems as well as ever; he is also perfectly rational but cannot connect words, replying, however correctly, in monosyllables. And as there has been no improvement in this respect it has been inferred that there must be a permanent loss or injury to that portion of the brain regulating language.

We have two other cases which would seem to confirm this opinion of the anterior lobes of the brain having some control over the faculty of speech. In the work of

Monsieur A. Nélaton, Surgeon to the Emperor and Senator of France, modestly entitled "Elements of Surgical Pathology," is introduced in a note of a case for this special purpose, from one of his former colleagues, Dr. Cullier, of a man brought drunk to the St. Louis Hospital, in Paris, who in attempting to commit suicide placed the pistol at his forehead. The ball entered and the full force of the explosion was expended at the junction of the ossa nasi and os frontis, greatly exposing the extremity of the anterior lobes. In ascertaining the density of the injured brain it was discovered that in compressing it the patient instantly stopped talking, which he had been engaged in doing incessantly up to that moment, and which he recommenced the moment the pressure was removed. The same thing occurred by pressing with a spatula on the encephalon, and so suddenly that words of two or more syllables could be divided; and on relaxing the compression, the remaining part of the word would be completed. The exact location of the bullet or the extent of lesion to the brain in this case could not be determined, as it was in the hands of the judiciary.

For the second deeply interesting case bearing on this point I am indebted to the celebrated English surgeon, Dr. Hennen, who published in his work on the principles of Military Surgery, the case of an old friend, a captain, wounded in the head by a musket ball, at Waterloo. When brought to Brussels, June 19th, 1815, he was heard to moan from extreme suffering, but when called by name, sat up, grasped the doctor's hand, kissed it most fervently, pointed to his head, then to the cicatrix of a wound received at Badajox, in 1812, of which he had been relieved by Dr. H., and burst into tears, without the power of uttering a word. Seen again on the 21st, and not before, because of the press of business from the arrival of the

many wounded at Brussels; much coagulated blood, particles of sand, and a thin scale of lead had been removed. The wound proved to be an extensive radiated fracture occupying the left parietal bone, in the centre of which was a large spicula imbedded in the brain. This, with the bullet, was removed after using the largest trephine. There was no immediate benefit from the operation, but after passing through extreme peril, he commenced to improve, but could not articulate beyond a monosyllable, and this only after great and repeated efforts. On one occasion, to ascertain what he wanted, the sentence was placed before him, "shall I write to your mother," when he again caught the doctor's hand, shaking it most cordially and bursting into tears, gave every possible demonstration that this was the favor he desired but could not express. This officer returned to England, one hundred and three days after being wounded, nearly recovered.

In a man wounded at Quatre-Bras, the 16th of June, 1815, the ball penetrated the occipital bone, below and to the right of the junction of lambdoidal and sagittal sutures. For some hours he stated that he could not see and afterward that he was constantly affected more or less with headache. At Brussels, and on the way to Ostend, he lived very irregularly and was often drunk. The external wound healed by the 20th of July, in about a month, and there was no suspicion that a ball was lodged in the brain. When he arrived at Colchester, England, matter had formed under the scalp; in a few days he complained of increased headache, had a hard and quick pulse, was then bled and purged, but without relief. An incision was now made through the cicatrix of the wound and a ball was found to have penetrated the brain. Some spiculæ were removed, but in spite of all treatment the patient died on the 29th of July, mak-

ing the forty-third day after he was wounded. The ball was found nearly two inches deep in the substance of the brain, surrounded with pus.

I notice next some cases which have occurred in civil practice.

Dr. John Hutchinson presented the following cases to the Medical Society of the county of Kings, of which Brooklyn is the capital, and it was published in the Buffalo Medical and Surgical Journal, January, 1866. The patient was a girl, æt. 7, wounded by a buckshot penetrating the cranial cavity, yet the little patient walked to and from the office of the doctor. A probe penetrated the wound four inches; there were slight vomitings for two or three days, but the child continued at school and played like other children. Six months from this time she contracted scarlatina and died; on examination no disease could be found in her brain, but the tract of the shot was traced through the posterior lobe of both hemispheres of the cerebrum, and rebounding from the internal surface of the cranium remained on the brain, producing no inconvenience, and had become almost "a forgotten thing."

One of the most extensive injuries to the brain, probably, on record, is the case presented by Dr. Wm. Foreman, of Princeton, New Jersey, in the 12th vol. (1846), new series of the American Journal of the Med. Sciences. It occurred in the person of a student of Princeton College on the 26th of September, 1845, who, while preparing to go out shooting, by the accidental discharge of his own gun, received a frightful wound in his head. The contents (buckshot) tore away the left ear, scalp, temporal muscles, and produced a compound comminuted fracture of the lower middle part of the parietal bone. The patient leaped into the air and fell on his face; was insensible, convulsed, and bled profusely; there was also

hæmorrhage from the nostril, and it is estimated that two pints of blood were lost. Before physicians arrived reaction took place; the patient vomited, he frequently said "boys," and when addressed once answered "what." The fracture occupied over one inch of the inferior part of the parietal bone, but there were fissures extending under the integuments; two deeply depressed fragments, and a small quantity of brain, with blood, occupied the wound. The subsequent history, including the treatment of the case, occupied about twelve pages, and a brief analysis is all I can give of it. A portion of the bone was removed by Hays' saw, and the depressed pieces restored to their natural level; *a gush of brain* followed the extraction of the fragment. He now had some fever, became restless, then had alternations with coma, suffering greatly, and the wound discharging so much blood and brain that the pillows were saturated. On the fourth day after the injury, he manifested returning consciousness, but could not articulate well. He had large fungus cerebri, sometimes convulsions, profuse fœtid discharges from the wound with some small fragments of bone, partial paralysis, etc., etc. By the thirty-third day the fungus had subsided and the opening in the skull being unobstructed, permitted a more extensive survey of the interior than was ever, perhaps, before made upon living man. The extent of the cavity antero-posteriorly, was estimated at four inches. Transversely the falx cerebri was visible, and bounded the view in that direction. The outline of the apophysis of Ingratius, was anteriorly, and that of the edge of the tentorium posteriorly. A flap of dura mater, like a curtain, shut out the prospect toward the occiput. Sensibility and consciousness were perfect, there was no pulsation of the brain; but this was agitated by an involuntary rotary movement. Curiosity attracted several intelligent gentlemen to call and see,

with astonishment, how little of the natural contents remained in the cranium, and yet this patient saluted his surgeon with a smile. He now suddenly grew worse, and died on the 2d of November, sixty-seven days after he was wounded. Post-mortem examination showed that, besides the sero-purulent fluid and pus, which was still escaping, the lower half of the middle lobe was entirely destroyed, with the exception of a little stratum of not more than a quarter of an inch in thickness. A sinus extended into the anterior, another into the posterior lobe of the left hemisphere. It was in this latter sinus that *two pieces of lead*, very much flattened, and indented together, about equal in size to one of the shot with which his gun was loaded when the patient received his fatal wound. A spicula, size of a mustard seed, was found here. In the posterior lobe there was not more than a cubic inch of healthy medullary substance, and this was about the condition of one-third of the anterior and two-thirds of the middle lobes. The septum lucidum and anterior fornix were also destroyed. The choroid plexus of the lateral ventricles were gone, and all the ventricles of the brain communicated with the wound.

Extensive gunshot wound of the face, head and brain; twenty-three shot found after death in the encephalon. During my first sojourn in London, January, 1830, a young gentleman, out shooting, was brought to a hospital, said to have "blown out his own brains," from the unexpected discharge of his gun, while resting it at full cock on his left foot. The piece was charged with No. 6 bird shot. The hat was thrown into the air; the patient fell backward and was supposed to have been killed. He soon, however, recovered sufficiently to walk some hundred yards, and was first seen by Dr. Henry K. Randall, who found him very faint, though sensible, but presenting a horrible spectacle. Part of the upper lip was

carried away, also the left os nasi, with its cartilage, portion of the nasal process of the superior maxillary bone, the whole of the frontal sinus, and a considerable portion of the orbital process of the frontal bone. Through the burnt and bloody opening in the cranium, about a *table spoonful of brain* had escaped with a small piece of bone. From the lacerated condition of this organ it was quite evident that some of the shot had entered the skull, and moreover, there were only twenty-seven perforations made by them in the hat. The partial collapse of the patient was followed by reaction, when his head was shaven, ice applied to it, 20 grains of jalap with 10 of calomel administered, then a saline cathartic, and 12 ounces of blood drawn. The next day he was better, the disposition to coma had subsided, the antiphlogistic treatment continued, and for six weeks, hopes were entertained that he might recover. He now became petulant and morose, had irritative fever, then diarrhœa, and at the end of eleven weeks expired. Two spiculæ of bone were found lying loose in a large lacerated wound, also, three shot near the middle portion of the parietal bone, several others in the *left hemisphere of the brain;* three abscesses were opened in this organ, and several more shot removed, making in all collected, twenty-three.

In another instance recorded by Dr. Andrews, a Mexican soldier, 20 years of age, entered the Pennsylvania Hospital August, 1859, who was shot twice by a pistol; one ball striking the centre of the os frontis penetrated the brain. Symptoms of concussion, then compression, followed. Prof. Pancoast used the trephine but did not find the ball, and no immediate change followed the operation. The patient, however, gradually began to improve and was discharged from the hospital seventy-two days after the accident, perfectly well.

He also gives credit to Cineselli of a case published in the Archives Générales de Médicine of 1844, of a patient shot in the left side of his face, but who did not know that he was wounded until he saw the blood flowing from himself. One half of the lower lip and cheek of the left side, from chin to forehead, the entire superior maxillary portions of the palatine plate, and alveola arch of same side, part of the ethmoid, os unguis, internal half of the orbital process of the frontal, and the lesser wing of the sphenoid, were all carried away by the discharge of the gun; besides which, there was extensive *laceration of the brain*. After three weeks of inflammation, &c., patient began to walk about, but soon became lethargic and melancholic, and died at the end of five months. An abscess was opened in the anterior lobe of the brain, behind the left frontal protuberance, the dura mater found thickened, and *thirty grains of lead* discovered.

Prof. Gross, in his system of surgery, states that Prof. May, of Washington City, communicated to him a case in which a young man, æt. 18, had received *an ounce ball in the upper and back part of the skull, penetrating the brain*. Some portion of its substance escaped, and the finger was introduced deep into the wound (but where the bullet lodged was not ascertained), yet the patient rapidly recovered without an unpleasant symptom.

In the London Lancet for 1855, Mr. Wm. Loney, Surgeon to the Macclesfield Workhouse, published a case not dissimilar to mine as regards the injury done the brain, but *all the ventricles were found filled with pus*. A boy 15 years old was shot by *a rifle-bullet* at two yards distance, and the ball entered the inner angle of the left eye. Blood escaped freely and the patient apparently suffered great distress, though he was partially insensible. He recovered by the next day sufficiently to say that the *ball was still in his head*. The sight of the right

eye was lost, while the left was unimpaired, but he could not open the lids. The wound was inflicted on the 28th of August, and on the 7th of September, ten days afterward, *the ball was extracted, lying on the occipital bone.* The patient lived in a state of great agony, and died on the forty-third day, greatly emaciated, sensible to the last moment, and in no degree paralyzed. In the post-mortem examination bloody points were found in the medullary portion of the brain, and all the ventricles filled with pus. The wound was traced from the internal angle of the left eye, through the sphenoid bone to the squamous portion of the temporal bone, having traversed the right *ventricle of the brain;* a small fragment of bone was driven under the scalp round to the occipital protuberance by the ball.

In proof of the extensive injury which the brain may sustain and the great loss of brain-substance without death necessarily ensuing, or destruction to the intellectual faculties, the French philosopher, M. Flourens, related the following facts to the Academy of Sciences in Paris, in 1862: First, the anecdote of a certain young officer in the time of Fronde, whom Cardinal Mazarin had refused to promote on the plea that "he had no brains." During an engagement of those stirring times, this young man received an enormous wound in his head, and the surgeon who attended him, astounded at the quantity of brain which issued from the wound, preserved it in alcohol. After the patient recovered, this brain was shown to him, when he exclaimed, "Pray send that to the Cardinal, to prove that I had more brains than he was aware of."

He next referred to the case of a young man who had been injured on the head by a stone, which struck the left parietal bone, whom Surgeon Lapeyronie trephined three times, and who entirely recovered after extensive

suppuration and loss of brain; and then proceeded to describe certain new experiments, which are exceedingly appropriate to our subject. M. Flourens states that he introduced leaden bullets into the brain of rabbits and dogs. These were placed on different points of the upper region of the encephalon, on the lobes, and on the cerebellum. These balls, by their own weight, penetrated by degrees into the substance of the brain and were ultimately arrested at the base of the cranium. The openings thus made through the substance healed up, and if not too large none of the regular functions of the animals were disturbed and no inconvenience whatever was produced.

It has not been my purpose to make a mere collection of cases in which the vulnific agent remained in the brain, but to analyze a sufficient number of the more recent and important, that valuable deductions may be derived from them. The history of this peculiar class of wounds does not extend much beyond the present century, indeed, may date from the battle of Waterloo; yet has become so voluminous that I have been compelled to omit an entire chapter on those injuries occasioned by other foreign substances lodged in the encephalon than those resulting from gunshots.

The first practical inference made from these forty-five cases here collated is, that the presence of a ball in the brain makes a grave complication to the injury done the cranium before penetrating its substance, particularly as this is usually accompanied with spiculæ of bone; and though such wound may not necessarily or immediately prove mortal, death not unfrequently occurs suddenly and unexpectedly months afterward, especially if the patient becomes intemperate.

Second. To remove this complication, however desirable it may be, too much care cannot be taken to dis-

turb the cranial contents as little as possible. The trephine in these cases may become a necessary instrument, but it is a hazardous one, and when required should be employed before inflammation is developed. No lost ball or foreign matter is to be searched for in the substance of the brain, except in cases of epilepsy. An abscess in the brain may be opened, taught as we have been by Dupuytren. All manipulations in or about this organ must be conducted with the greatest caution; never forgetting its delicate structure, that it is the seat of thought, and therefore subject to mental as well as physical excitement. It is, too, a double organ, and one hemisphere alone may manifest all the faculties of the mind.

Third. That there is a great difference in the effects of the same injury done the brain of a youth and an adult, nearly all remarkable recoveries in these cases having occurred in young persons, and the more youthful, the better the prospect for success.

Fourth. Fatal results from wounds of this class, when not immediate, are generally, if not invariably, due to inflammation of the cranial contents, which may, however, be tardy in its development, yet terminates almost always unfavorably, and hence the absolute necessity of avoiding all sources of excitement provocative of cerebritis or meningitis.

In conclusion, I can now fully appreciate the wisdom of the remarks of England's great surgeons, one civil, the other military, when they wrote, "no injury of the head is too slight to be despised or too severe to be despaired of."—Liston. "Injuries of the head, affecting the brain, are difficult of distinction, doubtful in their character, treacherous in their course, and for the most part fatal in their results."—Guthrie.

ART. II.—A CASE OF FIBRO-CYSTIC TUMOR—EXCISION OF RIGHT LATERAL HALF OF INFERIOR MAXILLARY—SPEEDY RECOVERY. By T. CHALMERS DOW, M.D., Nashville, Tennessee.

The profession, I believe, awards to Dupuytren the honor of first having removed a portion of the lower jaw, though if I mistake not the precedence is claimed by a Tennessee surgeon, whose name I do not now recollect, but I think is Deaderick. In malignant affections of the maxillary bones, an operation is rarely justifiable, as the soft tissues adjacent are generally involved to such a serious extent as to preclude all hopes from surgical interference. Different authors have their favorite methods in this, as in other operations, but perhaps that recommended by Mr. Erichsen in removal of a portion or the entire jaw, is preferable to any yet proposed. In the case I proceed to report I adopted the plan as laid down in his surgery:

Mr. J. L., æt. 47, from Kentucky, a native of the mountainous region of South Carolina, and during the war a member of the famous 11th South Carolina Volunteers, applied about the 1st of December last to Prof. Paul F. Eve, of Nashville, Tenn., for his surgical advice. Dr. Eve being absent, lecturing in the Missouri Medical College, St. Louis, I called in the best skill the city commanded, and an examination was made, resulting as follows: A large tumor of bony hardness protruded from right jaw, over which the skin was drawn very tense and close. Patient complained of great suffering; little or no rest for several nights previous. On opening the mouth found alveolar process and gums much expanded and from about the site of first molar tooth, a cystic cavity discharged a most fetid sanious pus. Indurated tissue was closely adherent all around the mass. Elicited the following history: About six months before suffered from

toothache; had extracted first molar; a small tumor soon formed about *hiatus*, caused by removal of tooth; gave no pain or uneasiness. Rapidly increasing in size, his family became alarmed and called in a gentleman who promised to *cure* it with external applications. Under the hands of this *expert* the disease was much aggravated and now commenced almost constant pain; rest could only be procured by anodynes. Had always been a temperate, healthy man as far as he recollects.

The diagnosis decided it to be a case of fibro-cystic disease, and thorough excision held out the only hopes of recovery. His system being duly prepared, the operation was performed in the sitting posture, under ether, in the presence of Profs. Jennings and Menees and Drs. Maney and Morton. An incision was made from the articulation to symphisis, following edge of jaw. The mouth was not cut into. The patient closed his jaws so firmly that a chain saw could not be entered, though a tooth had been removed for this purpose. A Heys saw was substituted and division effected. The hæmorrhage was very slight, ligation being made at once in all cases. Due care was exercised in avoiding the internal maxillary artery in the disarticulation. It was found impossible to continue the anæsthetic throughout the operation, and the last steps were performed with the patient in a state of consciousness. The incision was closed with the hare-lip suture and rigid dietetic regimen ordered. Not an unpleasant symptom was developed. The wound healed by first intention and he left for home in Kentucky on the cars ten days after operation. Previous to its performance he could scarcely articulate and eat with great difficulty and pain. Both of these defects were happily remedied. He now conversed plainly and apparently took great delight in talking to his visitors. A wash of carbolic acid was found highly beneficial in rinsing his

mouth. Have heard from him at intervals since he left. Declares he was never better in his life. The face is very slightly drawn to one side, which his beard now conceals. The remaining half of the jaw performs the functions of the whole in the economy wonderfully well, and bids fair to answer every purpose until nature supplies the vacuum as best suits her ends.

ART. III.—INTUSSUSCEPTION: SLOUGHING AND DISCHARGE OF TEN INCHES OF INTESTINE. By WM. H. BRAMBLITT, M.D., Newbern, Va.

On the 8th of March, 1869, I was called to see Mrs. H—, aged 64 years, in consultation with the family physician, Dr. J. T. Painter. Her general health had been good until the latter part of the summer of 1868, when symptoms manifested themselves that led to a vaginal examination. The uterus was found to be in a cancerous condition, advanced to ulceration. She was put on appropriate treatment, but the disease continued to advance, until, by the first of March, eight days previous to my visit, she was completely bedridden. Her sufferering became great for which she took morph. sulphas in large doses. On the day previous to my visit, while suffering with nausea produced by the medicine, she was suddenly taken with an acute pain in the abdomen, just to the right of the umbilicus. Warm fomentations were applied with but little or no relief. I found her suffering greatly, and, just previous to my arrival, she vomited; the matter evidently, came from the bowels, as it was offensive and appeared to contain fœcal matter. Upon examination, I found great tenderness over the point designated; so much so, indeed, that the examination could not be carried to a satisfactory extent; distension was, however, perceptible on percussion. She still suffered

from nausea, which was attributable, in part, to the narcotics she had taken. We diagnosed the case to be, most probably, intestinal invagination. She was given one or two small doses of calomel and opium, and had repeated injections of warm water in large quantities thrown up the rectum; but neither had any effect towards bringing on an action of the bowels. Opium and morphine were given to a sufficient extent to afford relief from pain. She had some tympanitis, but the distension was not great. Thus the case progressed, without a move from the bowels, until the eleventh day, when she had a fœcal discharge; this was followed by a diarrhœa, with tenesmus and some blood in the discharges, which neither opiates nor astringents seemed to control. The diarrhœa continued, until on the 28th day, counting from the time the pain commenced in the side, when ten inches of the small intestine came away. Her appetite now improved, and the diarrhœa, no longer bloody, was controlled to a considerable extent; but her sufferings, from her old disease, continued, and she required the almost constant administration of opiates to procure relief. She lived fourteen days after the discharge of the sphacelated intestine, and died exhausted with suffering from the uterine disease.

It may be of interest to state that her eldest daughter had died of the same disease, uterine cancer, and her second daughter has since died from the same malignant destroyer. In this family there seems to exist a constitutional dysmenorrhœa of the most intense and intractable character. What relation can this sustain to the subsequent malignant developments?

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—ON THE PATHOGENESIS AND TREATMENT OF STERILITY IN THE HUMAN FEMALE. By WM. C. ROBERTS, M.D., of New York.

In May last, I read before the New York Academy of Medicine, a paper on the causes of sterility in either sex, based mainly upon physiological relations.

Subsequently, Dr. Kammerer read a paper on the pathological conditions causing sterility, based upon a view of 408 cases, 201 of which had occurred in his own and 207 in clinical practice (Trans. N. Y. Ac. of Med., vol. 3, p. 7). These cases, which embraced the numerous descents, deviations, and diseases to which the uterus and its appendages are liable, were treated with more or less success, according to the usual methods; the proportion of success, so far as the removal of the sterility was concerned, being about one-third of the cases treated. One case in particular, however, deserves to be mentioned (No. 12); that of a woman whose inner uterine orifice was dilated at one session just after menstruation, and who conceived, after a barrenness of four years, immediately after; whether *propter hoc*, cannot, perhaps, be exactly determined. The physiological causes of sterility are not alluded to in Dr. K.'s paper, unless, indeed, the dilatations of the uterine orifices were intended to allow of an easier admission of the spermatozoa to the cavity of the uterus; and the intra-uterine injections employed to remove the noxiousness of the secretions.

In the paper which I read before the Academy, I showed:

1. That the generative apparatus of both sexes must be in a healthy condition. In the male, the penis must be capable of erection and ejaculation, and of emitting healthy semen.

In the female, the uterus and its appendages must exist, and be perfect; the ovaries contain fecundible ova; the tubes be pervious; the lining membrane of the cavity and neck healthy; and the os uteri, externum and internum, hymen, and vagina, pervious.

2. That it was by no means necessary that there should exist, at the moment of coitus, any orgasm on the part of the female, or a complete introition of the male organ intra vaginam; a very slight peri-vulvular congressus depositing the semen upon the vulva, sufficing for impregnation.

3. The ripe Graafian vesicle, secreted either just before, during, or after menstruation, and even, though not often, during the intermenstrual period, must, in some part of its course into the uterus, come into direct and immediate contact with one or more living spermatozoa, in order to be fecundated.

4. Semen contains, as its most important constituent, animalcules, spermatic cells, zoospermes, spermatozoa, or zoids, as they are variously called, according to the idea which is formed of their nature. In the field of the microscope, they are seen to move about with varying activity, and whether or not they be endowed with true vitality, life, or be or be not organized animals, which last seems generally now to be believed, their volition is seemingly directed by instinct toward, and in spite of all obstacles, the ovum which they are to impregnate. In a natural temperature, they live for 48 or 72 years; are found living, even in the cadaver, after 24 hours, and in bitches have been seen to move seven or eight days after copulation. Acids, urine, electricity, strychnia, narcotics, and certain vagino-uterine secretions destroy them; but of this last hereafter. Probably they are reproduced; they are certainly nourished: strange creatures, which, by union with an ovule, are capable of communicating to it, not only the physical resemblance, but the temperament and constitution of the parent. They appear in the semen at puberty; are found afterward at all periods of life, and in men of advanced age (82) have been found as numerous as in the adult.

5. The material contact of the semen and the ovule, both animated by their vitality and perfect in themselves, is the essential condition of fecundation, and the intimate fusion of these two elements is alone capable of giving birth to the new being. *If any obstacle* impedes the immediate contact of the two germs, conception on the part of the female is impossible. Upon an accurate knowledge in regard to these causes depends the successful treatment or cure of sterility.

6. The *aura seminalis* alone is insufficient. Filtered

semen is equally so. No part of the semen but the animalcules suffices.

7. The fecundating power of the animalcules seems connected with their vitality, for it diminishes and is completely extinguished with their movements. Semen is infecundible without living spermatozoa; and it is certain, however thry enter it, that they get within the vitelline membrane of the ovule, and have been seen in immediate contact with the yolk, when they part company and disappear by liquefaction.

8. The merest drop of a high dilution of the semen of a frog, directly applied to the egg of the female, suffices to fecundate; but more than one spermatozoid is required. Two hundred and fifty-five, in the experiments of Prevost and Dumas, impregnated sixty eggs out of three hundred.

9. Neither the movement of the vibratory cilia, nor an aspiratory spasm, nor capillarity, can account for the progression of the spermatozoa. It is to their own motility, and to their power of overcoming obstacles, that this is wholly due. The passage of the spermatozoa from the uterus into the tubes occupies 8 to 10 hours; arrived at the free extremity of the tube, they reach to, or upon the ovary, by means of the fimbriæ which unite the *pavillon* to that organ. If there they meet with a mature ovule, fecundation may result. Twenty or thirty minutes are required to enable them to enter the uterus. The tubes take from two to six days to transmit the detached ovule to the uterus, where, if previously fecundated, or when fecundated it stops and is developed, imbedded in decidua. If not, it escapes with the decidua in 10 or 12 days, or at the end of menstruation. The period most favorable for impregnation, then, is immediately before, or during, or soon after menstruation ceases. The flow of menstrual blood does not impede, but rather accelerates the progress of the spermatozoa. But how are we to account for fecundation during intermenstrual periods, unless we suppose that coition hastens the development and detachment of a mature ovum? Fecundation and coition are separated for at least the time which is required for the spermatozoa to pass through the uterus and tubes, and reveals itself by no special signs. A single act of coitus may suffice for impregnation, of which many instances are known. If, now, we attempt to assign the canses of infecundity from

a physiological point of view, we shall find that men are infecund because they are incompotent or aspermatic, *i. e.*, incapable of erection or ejaculation: and even when capable of emission, are aspermatozoic, that is, secrete a semen or fluid which contains either no or no living spermatozoa. Eunuchs possess for a while an incomplete power of erection and an ejaculation which must be aspermatozoic, which, for the lack of the stimulus of venereal appetite, they gradually lose. Impotence is not necessarily associated with either aspermatism or aspermatozoa. It is sometimes purely nervous, and when cured, the power of fecundation may exist or return. It occurs among the newly married and in the old. But very old men are not necessarily infecund, as we have seen, and the case of old Parr is in point. The only way in which aspermatozoa can be positively ascertained is by submitting the semen to the microscope soon after its emission.

But it is chiefly with infecundity in the female that we are concerned, and allowing that there is no fault in the generative faculty of the male, it behooves us to inquire into its causes. Admitting that no physical defect of organism occur in her, and that, as we so often see, she is robust, healthy, menstruates more or less perfectly, and is free from organic uteriue malformation or disease, why is it that the spermatozoa do not reach and fecundate her ova? Ill health may, I think, possibly prevent this from occurring, by impairing the fecundity of the ova, or faults in the ovary or ova may have a similar effect. Dysmenorrhœa, though often associated with infecundity, does not necessarily cause it, and the reason of the association is probably purely a mechanical one. The cause which prevents the easy escape of the menses, and renders it painful, may equally prevent the access of spermatozoa to the uterus, tubes, and ovaria. To these we shall presently advert.

But these are not the only causes for infecundity on the part of the woman. There is another and a principal one, to which passing allusion may be found in authors, but it has by no one been so markedly assigned and scientifically considered as by Donné, and our countryman Dr. Sims, to whom surgery and science are alike both deeply indebted.

I allude to the *destruclion of the spermatozoa* by the vitiation or peculiar constitution of the vagino-uterine

secretions, by which fecundation is rendered impossible.

In Donné's "Cours de Microscope," etc., the work of a zealous, cautious, and candid observer, we find much that is interesting and important on this subject. Acetic acid instantly kills the spermatozoa, but leaves them perfectly intact for years. Blood and milk exert upon them no deleterious influence, saliva kills them rapidly, urine instantly. Pus and the *muco-purulent matter of uterine leucorrhœa* does *not* affect them by its contact. They live perfectly well in the mucus secreted by the vagina in a normal state, which is slightly acid; but, and this observation is most important, the acidity of the mucus secreted by the vagina becomes such, in some circumstances, as when there is congestion, acute irritation, or inflammation of this organ, that the zoospermes *seem unable* to live in it more than a few moments. He has even seen them, particularly, give no sign of life, in less than two minutes, in the vaginal mucus of a woman of 22, affected with an extremely acid discharge. "Can this, then," Donné says, "be considered as the cause of sterility in some women?"

Vaginal mucus is white, opaque, creamy, not viscid, and always *acid*. *Uterine* mucus, on the contrary, is transparent, stringy, tenacious, like albumen, sometimes clouded with purulent matter, but always *alkaline*, turning litmus paper blue, whilst the mucus of the vagina always reddens it.

The action of this (uterine) mucus on the animalcules varies according to circumstances. Generally the spermatozoa brought into contact with uterine mucus do not suffer. But *certain kinds of uterine mucus* kill the animalcules with the greatest rapidity. Nor is this mucus distinguished from others by any appreciable characteristic, microscopic or otherwise, being either pure and transparent, or opaque. An excess of alkali seems to be the only probable cause of its deleteriousness, litmus paper becoming instantaneously intensely blue.

No possible means of ascertaining the fact seems to exist, except that of submitting the spermatozoa to the action of uterine mucus of various kinds or qualities. "Do not," says Donnè, "the facts related lead to the belief that alterations of the vaginal and uterine secretions play an important part in causing sterility, by killing the fecundating liquid; and is not some light thrown on its

hitherto obscure causes, and a suggestion made of a rational and efficacious remedy?"

It is but doing simple justice to our countryman, Dr. J. M. Sims, to say, that he is the first among us to revive those ideas, and give to them a practical application (On Mic. in Diag. and Treat. of Sterility, N. Y. Med. Jour., Jan., 186?). In this paper he lays it down: 1st, we must have spermatozoa in the semen; 2d, they must enter the utero-cervical canal; 3d, the state of the secretions must be favorable to their vitality. In the absence of the second of these conditions only is any operation to be thought of. How are these facts to be ascertained? By examining the condition of the vaginal and uterine secretions after coition. A little of each is to be withdrawn with a syringe, and placed under the microscope; and to do this accurately, the fluid must be retained for some time after in the vagina. He thinks the best period for making the investigation is the fifth or sixth day after the menstrual flow. Dr. Sims, in one respect, differs from Donné. He says, "the vaginal (normal) mucus, by its natural acidity, kills very quickly *every* spermatozoon, and seems to be a perfect poison for the superabundant ones." If this were true, fecundation would very seldom, almost never, occur. Donnè, more correctly, I think, says, its slight natural acidity is not noxious to the spermatic animalcules, *but is only so when excessive*. The cervical mucus is to be carefully separated and distinguished from the vaginal, and withdrawn with a syringe for examination. Dr. S. thinks it possible to obtain a second specimen from higher up the canal, or from within the os internum, which I should think would be difficult, and finds in the one sometimes living, in the other dead spermatozoa. Donné does not carry his researches so far. He is content to take the mucus which hangs out of the os externum, or can be withdrawn from within the neck. Dr. Sims thinks that if the cervical secretion contains little opaque spots of milky whiteness, and when it is very thick and albumino-purulent (as also when perfectly clear), it is poisonous. Donné's observations *generally* (p. 293) oppose this assertion:—*A certain quantity of mucus is necessary to produce this effect*, which cannot be told from its natural or microscopic appearance—too *alkaline* (?) if uterine; *too acid* if vaginal. Be all that as it may, there is a peculiar condition of either of these secretions, whatever it be which does kill the spermatozoa, and oc-

casion sterility; and the great point is to remedy it. Dr. Sims justly says, it is not every woman who has dysmenorrhœa (and I add, or lucorrhœa), who is sterile, nor every man who may be vigorous and enjoy good health who is capable of procreation. He has known half a dozen husbands—in one place he says many—whose semen had no spermatozoa. Dr. Sims' paper proves and he frankly acknowledges, that the operation of incising the cervix is seldom necessary or proper, often quite uselessly performed, and he no longer thinks that the most common obstacle to conception is a more or less contracted utero-cervical canal (p. 24, lib. cit.) I quite agree with Dr. S. that the necessary investigations into this interesting and practical subject, by which alone a true and scientific knowledge and basis of action can be obtained, involve neither indecency nor sacrifice of self-respect on the part of either surgeon or patient.

If, then, it should be asked, what necessity there exists for dilating the two orifices and neck of the uterus, we answer, 1st, because of its allowing a more easy escape for the menstrual blood; and 2d, because it allows an easier access to the spermatazoa. Although neither an aggravated dysmenorrhœa nor a very contracted os uteri, internum or externum, are necessarily fatal to, they are unfavorable to impregnation, and should, as a part of the treatment, be remedied. I cannot, for my own part, imagine that flexions, however great, of a part so short and so flexible as the neck of the uterus, which are so readily restored by the introduction of a long and suitably-sized speculum, and which, moreover, I so seldom encounter, can offer any serious impediments to fecundation. But the contractions of the orifices are real and unmistakeable, often obstinate, and contribute, I doubt not, to this result; but even then very partially, for, as Dr. Sims justly observes, cases are recorded where conception occurred when the os barely admitted a small-sized probe, and that spermatozoa now and then pass along the Fallopian tubes, which ordinarily admit a bristle. It is, then, to the state of the vaginal and uterine secretions, the semen being healthy, that we must look for the great cause of infecundity in the female. The remarks of Joulin on this subject are worthy of repetition: "The contraction which has its seat at the internal orifice of the uterine neck is one *of the most common causes of infecundity*; and particularly among multiparæ.

But women who have borne children sometimes exhibit this disposition, which oftenest coincides with an extreme narrowness of the neck of the womb and imbrication of the folds of the *arbor vitæ*. This cause of sterility which is usually accompanied with the phenomena of dysmenorrhœa, was until lately unknown.

"The treatment consists in dilating the constricted region. I prefer a cylinder of prepared sponge, small to begin with. I have obtained 2 successes with this proceeding;" Becquerel 4, and Meisteler 7, out of 9; McIntosh 24 out of 27, 11 of whom bore children; and Corty several followed by conception (410). This certainly shows that, although closure of the uterine orifices does not necessarily prevent, dilatation exerts a considerable influence over the subsequent fecundity of the patient.

"The first sponge," says Joulin, and Corty repeats him, "does not pass through the internal orifice; each one penetrates a little further than the first, and simply dilates the neck; but later, the inner orifice becomes permeable. The sponge applied swells immediately, and the woman can attend to her business without feeling the least inconvenience." This is only partially true. It sometimes produces pain and irritation within twenty-four hours, and requires removal. I once saw frightful results from the thrusting of a spong-tent into the uterine cavity. Corty says an interval of two or three days should elapse between each introduction. Joulin says, if not removed, generally about the third day a discharge takes place of a clear, abundant, *fetid* fluid, which disappears on its removal. "I renew," he says, "these applications twice a month—ten days before and after menstruation. When the dilatation is sufficient, I suspend their introduction, and recommence it the stricture tends to reappear, for often the amelioration is only temporary. It supplants the incision, which, unless the sponge-tents are used simultaneously, cicatrizes and contracts, leaving things as they were. It is simpler and less dangerous, and women, at least, if they have not patience to follow out the plan, *are often relieved of their dysmenorrhœa.*" "Uterine deviations," says Joulin, "are not causes of sterility, for the semen need only to be deposited in the vaginal cavity, not projected into the os. Unless, then, when very intense, and the angle of flexure very great, displacements of the uterus do not offer any serious obstacle to concep-

tion." Tents of sea-tangle (*Laminaria digitata*) are preferable to prepared sponge, because they can be longer retained without producing irritation and fetid discharge, and do not rot or break; but I do not find them as easy of introduction. Corty repudiates them.

Other means of dilatation are employed. Dr. McIntosh used flexible metallic bougies. Bennett prefers wax or gum-elastic bougies to metallic ones. Simpson uses metallic stems of graduated sizes, left in the uterus for various lengths of time, and sometimes changed daily for days together, or left in permanently. With the gum-elastic French bougie, fine or olive-pointed, varying in diameter above the point (bougie à ventre), all my own successes have been attained. Generally, the point reaches to and strikes firmly against the os internum, and irritates it spasmodically. After a time, if not too large, with a little management it enters the stricture and passes up to the fundus with little or no pain. The next time, again, perhaps, nothing will pass, and so on, until sufficient dilatation is effected to admit a larger size. Sometimes, on the same day, one bougie, after remaining in a little while, may be withdrawn, and a larger one passed, but not often. Strictures of the os internum uteri, like strictures of the urethra in the male, are irritable and capricious, and must either be coaxed or taken when in good humor. If it is going in, the bougie must pass in quickly, almost precipitately. I think I understood Dr. Kammerer to say that he also made use of steel bougies of graduated sizes. All I have to say about this is, that safe as these may be in skilful hands, and successful—they have not been so in mine—they cause pain, and, I think, excite irritation and spasmodic contraction in the upper os, which makes it difficult to pass them through it; and if pushed in forcibly, might, I should think, do mischief. I can conceive of cases in which it might be necessary to incise the outer os, or to dilate the cavity of the neck with sponge or laminaria, in order to introduce the bougie; but when a hysterotome of any kind, a sponge-tent or slip of laminaria can pass, a slender-pointed, flexible, gum-elastic bougie, I should think, could be passed also, and with time and patience effect the object. Try to learn the course of the stricture, pass in the bougie in it, firmly and quickly, through the os, *au fond*. If it means to go, it will then, and may be retained for a longer or shorter time. I believe it

would be well to leave it in for some hours. If you do not succeed after a short trial, suspend the operation till a later day. If the stricture is, or becomes irritable, the more you try the less likely you are to succeed. Success is either null or immediate. When complete dilatation has been obtained with a bougie of large size, the passage of it becomes easy, but it must be repeated at intervals; after menstruation; perhaps best in the true intermenstrual period (10 or 14 days after), for if the woman should happen to have conceived, abortion would almost inevitably follow the introduction of the bougie into the uterine cavity. The bougie should be new, firm, and not too flexible, or it will double up and not pass. Bougies that have been used many times are liable to this objection. If, after withdrawing the bougie, a laminaria tent could be introduced, and left *a demeure* some days, it would be well; but it is not easy or always possible, and the bougie alone must be depended upon.

All these operations have for their object the facilitation of the escape of the menses and removal of dysmenorrhœa, and the allowing of an easier and freer entrance to the spermatozoa. But beyond this is the aid afforded to methods intended to effect the change in the uterine secretions necessary to insure the vitality of the spermatozoa. If this cannot be done, our researches and conclusions upon this point in the pathology of sterility will be of no avail. It is to be effected, as far as I know, by cauterization, chiefly with nitrate of silver, introduced in the solid form, or by injection, into the cavity of the neck and uterus, although other substances are employed. Dr. Sims' pamphlet is unfortunately silent on this point. Corty ranks among curable cases of sterility, simple or complicated imperforation, congenital or accidental narrowness of the uterine orifices, the frequent cause of mechanical dysmenorrhœa; and says by dilatation and double incision of the neck, he has obtained unquestionable cures of more than fifteen sterile women, whose fecundation followed the treatment in from three to fifteen months. Flexions, when very decided, are causes of sterility, and incurable when held down by adhesions; and he does not partake of the opinion of M. Joulin, on the small importance of deviations of the uterus as causes of sterility. He thinks that the glans penis should, at the moment of ejaculation be opposite to the meatus uterinus; and that even a temporary re-

storation to the natural position (p. 1008) suffices sometimes for fecundation; and that after this, and after dilatation even, no time should be lost in attempting fecundation, and that certain positions of *the female in coitus* are preferable in some cases to others. Hypertrophy even of one lip and conicity of the neck, congestion, inflammation, granulations, and fungosities are all obstacles to fecundation. This appears to be also the opinion of Kammerer, and of C. Mayer, of Berlin (1856), whom he cites in his paper.

In Dr. K.'s patients, retroversion (20), anteversion (18), anteflexion (83), retroflexion (71), hypertrophy (65), small os (24), stricture of internal os (35), were the commonest lesions, and seven-eighths of the whole number were affected with some form or other of uterine catarrh. If the views which I have herein presented, relative to the occasional and frequent destructiveness of the accompanying secretions to the spermatozoa be correct, some of the sterility in them may be fairly, I think, attributed to it, and some of the successes to the means employed for its removal. Corty thinks that very abundant leucorrhœal secretion may expel the semen from the uterine cavity, when it has once entered, and the very viscid, tenacious mucus which plugs the os opposite its entrance.* Vaginal he thinks less injurious than uterine mucus, the latter of which may have a very injurious influence upon the relatively very small quantity of sperm which enters the uterine cavity (1012). He adds: "In a great number of cases the great abundance of the leucorrhœa, and even its purulence, does not prevent fecundation.

Corty differs from Joulin as to the effect of a want of orgasm on the part of the female. He thinks it may occur without being felt or expressed, that it is capable of development and education, and hence fecundation seldom occurs until after some months (12, 18, 24, and 36) of married life; again, in some cases of sterility, coinciding with perfect general health of the genitals, and only attributable to absolute defect of orgasm, even in women very desirous of becoming mothers; or awaking, together with fecundity, after a lapse of years, and thence pursuing the natural course of its evolution, a new lover, or husband perhaps, determining the result. But it is equally certain that many entirely cold and

*Sometimes the semen is all instantly thrown off by the vagina, by too soon rising after coitus (Sims 12).

passive women are extremely fecund. Sterility, on the other hand, may depend upon a totally opposite condition. Menorrhagia (a precocious abortus), or intermenstrual menstruation, by its tendency to reproduce itself when the ovum is recently fecundated, becomes an obstacle to gestation. The number of causes, single or allied, upon which sterility may depend, should certainly render us sober of promise to women in whom it is only relative, and affords hope of recovery, while the very frequent realization of that hope, under well directed treatment, should warrant, I think, a patient and continued effort on the part of both patient and physician.

Among the chief means of correcting the morbid conditions of the uterine mucous membrane upon which noxious secretions may depend, may be said to be cauterizations of the mucous membrane of the neck and cavity, and certain intra-uterine injections. The caustic most commonly in use is nitrate of silver, used externally to ulcerations and abrasions of the neck, and internally applied to the mucous membrane of the neck and cavity, to repress granulations and fungosities, to diminish hypersecretion, and by modifying the morbid condition of the glands which produce leucorrhœa, change the character of the secretion itself into one less injurious to the vitality of the spermatozoa. Upon this subject M. Corty says: "The cauterization may be performed, after dilatation, with a camel's hair brush, but as this is an unenergetic method, the idea has arisen to introduce the solid nitrate and apply it directly over the surface."

Various porte-caustics have been devised for this purpose, intended to secure the caustic from being broken off within the cavity. "But," says M. C., "having myself met with the accident and satisfied myself not only of its harmlessness, but of its happy results, I fix a piece of solid nitr. of silver, of suitable length, in an ordinary platinum porte-nitrate with a long handle; place the patient in supination; introduce a wooden speculum; examine very gently with a sound the direction of the utero-cervical canal, and immediately after carry the crayon of nitr. silver even into the uterine cavity." This is easily said, but is it quite as easy to do? M. C. continues: "Instead of endeavoring to withdraw it intact, I use, on the contrary, all my endeavors to precipitate it, to break it off, which is not very easy to do, and I abandon it in this cavity (p. 265). The vaginia is then tam-

poned with a cloth, wetted with a solution of salt in water, sustained by a second one, and the speculum withdrawn." "I can say," he adds, "that I do not know any more heroic means that this *little* operation, which it is not often necessary to repeat, in the treatment of obstinate leucorrhœa. I have not observed serious accidents to follow it. Once only I saw atrocious pains, not yielding to baths, antispasmodics, nor narcotics." The neck having swelled, and the os being occluded, he incised it some hours afterward, to facilitate the expulsion of the mucus and caustic itself. In all the other cases, the pains, "even very strong in a small number of women," have always yielded, however violent, to general and local antispasmodics and to cool hip baths, with continuous vaginal irrigations, prolonged if necessary for several hours.

Those of my readers who may feel disposed to adopt this heroic and comparatively innocuous and "incomparable" little remedy, will do well to consult M. Corty's Traité Prat., etc., Paris, 1866, p. 264 & 7, 618. It is to be employed only, be it remembered, when the passages are freely pervious, and there exists neither metritis, perimetritis, ovaritis, flexion, deviation, stricture, nor constriction of orifices.

M. Corty is not in favor of intra-uterine injections. He says that they are the most dangerous that can be employed, and has seen them instantly followed by very formidable accidents, to say nothing of the possibility of their passing through the tubes into the peritoneal cavity and giving rise to fatal peritonitis. M. C. uses no other fluid than pure water, and even then only where there exists a perfect facility for the escape of the injected fluids.

Dr. James Kammerer, of this city, whose paper on Uterine Catarrh, reprinted from the Am. Journ. of Obs., vol. ii., No. 2, August, 1869, I have just been favored with, is a warm advocate, on the other hand, in their behalf, and uses them constantly with safety and success. When catarrh is accompanied with true angular anteflexion, the posterior lip of the uterus must be incised by Emmet's operation, to straighten the canal and provide for a free exit for the catarrhal secretion; and extreme smallness of the external os requires a bilateral incision. The patient being placed in a recumbent position, a sound is introduced into the uterus, and the depth, capacity of

the cavity, and the mobility of the organ accurately measured and ascertained. A cylindrical speculum is then introduced into the vagina. In order that an entire permeability of the cervico-uterine canal shall exist before the injection is attempted, Dr. K. is careful to dilate it by means of a series of sounds four in number, of varying sizes, made of copper or German silver, of which exact figures are given on pp. 14 and 15 of the pamphlet alluded to. These are successively introduced through the speculum until full dilatation of the canal is obtained; after which injection and escape of the injected liquids are easy and safe. After washing out the cavity of the uterus with a long-nozzled India-rubber bag syringe, the appropriate remedy, in liquid form, is injected. These are chromic acid, Lugol's sol. of iodine, dilute or concentrated, and carbolic acid diluted, and also sulph. zinci. 10 grs. to the ounce. Of carbolic acid as an intra-uterine injection, I find no notice in the three French works I have consulted, Joulin, Corty, and Becquerel, and do not know with whom it originated.

Dr. Squibb, in a recent pamphlet, speaks of it as a mild local anæsthetic, useful in cystitis and leucorrhœa, and says that its use has often been favorably noticed in the foreign journals. Weak solutions of these dilute substances may be freely injected, raised to a certain temperature, not cold; but of the concentrated, 10 to 20 drops is the most that can be safely injected, the dilute being in ordinary cases the most prudent. Caution and skill are necessary, for Dr. K. himself allows (p. 23) that accidents may occur occasionally, notwithstanding the most careful observance of the rules he has laid down (p. 12). Dr. K. observes that he has often cured patients of their catarrh, as well as their sterile condition; but the peculiar morbid action of the secretions upon the spermatozoa, to which, in this paper, I have endeavored to direct attention, is not, so far as I have observed, alluded to. Dr. K. remarks that a new cause of sterility, hitherto little attended to, may be a destruction of ciliary uterine epithelium from the too powerful application of escharotics. The direction of the cilia, however, is from and not toward, the uterine cavity. There can be no doubt of the safety and efficacy of intra-uterine injections in Dr. K.'s experienced hands, and many cases are cured by it, no doubt, which would resist any other mode of treatment. Dr. K. looks upon uterine catarrh as the

most frequent cause of sterility in the female, having met with it in 342 cases out of 408, but without assigning any reason.

The womb, in the present state of uterine therapeutics, must be looked upon as a meek and long-suffering organ, which endures with wonderful patience the rough handling, the burnings, slashings, pokings, and scrapings it receives at the hands of the gynæ-atrics. Still gentleness and caution are necessary, for it does not *always* submit to them without resistance, remonstrance, or recalcitration.

If these remarks shall conduce to a better study and understanding of the causes of sterility, and a more successful treatment for its removal, my object in writing them will be happily attained. The action of the vagino-uterine secretions upon the spermatozoa, will soon, I have no doubt, become an interesting and important specialty, and, I trust, will receive speedy and due attention.—*N. Y. Medical Record.*

ART. II.—THE ACTION OF MERCURY, PODOPHYLLINE, AND TARAXACUM ON THE BILIARY SECRETION.

The British Medical Journal contains the concluding portion of the highly interesting and important report from the Edinburgh Committee, made through their reporter, Dr. John Hughes Bennet, on the action of mercury, podophylline, and taraxacum on the biliary secretion. The inquiries instituted by this committee occupied two years, and the committee believe them to be quite exhaustive, and to leave nothing to be desired.

The mode of operating for biliary fistulæ, and of collecting the bile is first described. "All the operations were performed by Dr. W. Rutherford, who ultimately succeeded in overcoming the great difficulties which presented themselves. The collection of bile for a period of at least twenty-four hours at a time was considered incumbent, to secure accuracy and avoid error.

The committee had not proceeded far with their experiments before it became evident that a preliminary investigation was necessary in order to *determine how far dogs are capable of being influenced by mercurials.* Accordingly a number of experiments were instituted to de-

termine this question, and the results showed that on a dog mercury has the same action as on man.

We omit the details of the experiments of the committee on several dogs in which biliary fistulæ were established, to determine the cholagogue action of pilula hydrargyri and calomel, and quote the results which were arrived at, and which are stated to be:—

1. Pilula hydrargyri, when given in doses which did not produce purgation, caused no increase of the biliary secretion.

2. Pilula hydrargyri, when given in doses which produce purgation, diminishes the biliary secretion.

3. Calomel, given in doses of one-twelfth of a grain, from six to fourteen times a day, and in doses of two grains from two to six times a day, did not produce purgation or increase of biliary secretion.

4. Calomel, when given in doses which produce purgation, diminished the biliary secretion.

Next experiments were made on dogs with biliary fistulæ, to determine the cholagogue action of corrosive sublimate, and the results are stated to be the following:

1. That corrosive sublimate, when given in small doses, gradually increased in strength, does not augment the biliary secretion, but that it diminishes it the moment the dose reaches a strength sufficient to determine the general health.

2. The corrosive sublimate given in the above method may diminish the biliary secretion, while it does or does not produce an evident action on the salivary glands and mouth, and without producing purgation.

3. Case 6 shows that the biliary secretion is likewise diminished when this drug is given in a dose sufficient to produce purgation.

The next subject which engaged the attention of the committee was the mode in which the mercury caused a diminution of the biliary secretion in dogs. The legitimate conclusion from this experiment, the committee state, "seems to be that mercury, when administered so as to impair the general nutrition, lessens the biliary secretion. This may result without impairment of the appetite; but when there is a diminished consumption of food, the failure in the biliary secretion is all the more marked."

Before concluding the observations on dogs with biliary fistulæ, the committee thought it would be important to

try the cholagogue influence on the liver of podophylline and extract of taraxacum, and the following are given as the results of their observations:—

1. Doses of podophylline, varying from two to eight grains, when given to dogs, diminish the solid constituents of the bile, whether they produced purgation or not.

2. Doses which produced purgation lessened both the fluid and solid constituents.

3. During an attack of dysentery, both the fluid and solid constituents of the bile were greatly lowered.

4. Doses of the solid extract of taraxacum, varying from 60 to 240 grains, affected neither the biliary secretion, the bowels, nor the general health of the animal.

The observations of the committee conclusively show *that purgation* produced by a variety of causes *diminished both the fluid and solid constituents of the biliary secretion.* "Spontaneous diarrhœa, dysentery, purgation produced by pilula hydrargyri, by calomel, by corrosive sublimate, and by podophylline, always diminished the solid constituents of the bile, and, with one exception, the fluid portion of the bile also. That purgation diminishes the biliary function of the liver, is one of the most important facts established by the committee. It is, however, nothing more than might have been expected, seeing that purgation drains the portal blood, from which the bile is almost entirely formed."

The biliary secretion is in some cases greatly influenced by the amount of food taken, while in others it is not. The amount of bile secreted was greatly diminished by starvation.

The committee conclude their report with the following remarks:

"It is unnecessary to dwell upon the importance of the results at which the committee have taken so much pains to arrive. If the refutation of a wide spread error be as important as the establishment of a new truth, the practical advantage of demonstrating that mercury is not a cholagogue cannot be too highly estimated. Although, in recent times, the administration of mercurials for hepatic diseases has greatly diminished, their employment is still very general, and in India almost universal. Recent cases demonstrate that long continued salivation and great loss of health have been produced in the attempt to remove old abscesses or other chronic diseases

of this organ, and there are few of its lesions in which it is still not thought advisable to try small or full doses of the drug.

"On this subject it is unnecessary to dwell at present. The real question is, whether the evidence is satisfactory, or whether further researches are necessary. On this and many other topics connected with therapeutics, what we require are not unfounded assumptions and vague speculations, but positive knowledge, based on unquestionable data. These we have furnished, and consider them amply sufficient to demonstrate the fallacy of the opinion everywhere prevalent as to the cholagogue action of mercury."—[*The Am. Jour. of Med. Sciences.*

Art. III.—Sunshine for the Consumptive. By Dr. Henry I. Bowditch, Boston, Mass.

We have been told by some consumptives that one of the best prescriptions we have made has been their removal from a north room to the sunny south chamber. As we write, two cases come to mind, strikingly illustrative of the sun's benign influence. We had been attending, at an orphan asylum, a girl about twelve years old, who had been long ill of very severe typhoid fever. She was wholly prostrated in mind and body, and emaciated to the last degree. It was plain that she was falling into that depressed condition of all the powers of life that so often precedes consumption. Day after day we visited her, but all recuperative power seemed lost. Half dead and alive, the little creature neither spoke nor moved, and ate only on compulsion. One day, on our way to visit her, we felt that elastic thrill which the warm rays of the sun impart in the early cool weather of spring. We involuntarily leaped along, and were instantly struck with the fact that "virtue had gone out of us," when we left behind us the sunlight and warmth of the street, and entered that northern chamber, the dormitory of the poor orphan. That inspiriting influence the invalid had never experienced in the slightest degree during the whole of her sickness, as owing to its peculiar situation, not a ray of direct sunlight had ever entered the chamber. We were shocked, and for the first time considered the depth of her loss, and our own remissness in regard to her. The air of the room had been pure, the ceilings

of the infirmary were lofty, the attendants had been faithful and sagacious. Nothing seemed lacking, in fact, to restore health. Yet it did not come. On the contrary, there seemed a constant downward tendency. "A sunbath in the warm rays of this delicious spring day is what this girl needs," we instantly said to the sister superior. This lady gladly consented to the change, and placed the little patient in another room having a southern aspect, and consequently filled with sunlight. The invalid immediately recognized the change, and asked, in her weak way, to have the curtains raised, so as to let in the full blaze of the light. Soon she wanted to sit up; and directed that the easy chair, in which she was propped, should be so placed as to allow her whole body below her face to be exposed to the direct rays of the sun. It was the natural tendency of disease, seeking for all life-renovating influences. And we have never met with so marked or so rapid improvement as immediately began in the body and mind of the girl. Appetite and strength increased daily, and with them burst forth again all the joyousness of the child's heart.

Another analogous case, which, although we do not demonstrate by the influence of the sun alone, we cannot forbear to name, because by such examples we impress perhaps on the minds of our readers the real principles underlying the whole question. A lady aged about thirty, resident in the northern part of New England, consulted us for undoubted tubercular disease of the lungs. Her house was well situated, and on the side toward the south was a small piazza resting on stone steps, which was raised two or three feet from the ground. The winter was approaching and rules were to be given. Having full faith in these divine influences of pure air and sunlight, we directed that she should sit out on this piazza every day during the winter, unless it were too stormy. It was so arranged as to shut out the cool air on three sides, and to admit the full blaze of sunlight in front. Here, according to our directions, she used to sit, wrapped in furs, reading or writing for several hours each day during the following winter, and with most excellent results. She was directed frequently to make deep inspirations in order to fill the lungs with pure air. She was never chilled, because the sun's rays and her warm clothing prevented it. She never "took cold" there. On the contrary, the balmy influence exerted upon her by

her daily sun and air bath were so grateful; her breathing became so much easier after each of them, that, whenever a storm came, and prevented the resort to the piazza, the invalid suffered in consequence thereof. Whether these remarks will prove to our readers that want of sunlight may be reckoned among the causes of consumption may well be doubted, but we trust that, at least, they will convince some skeptic that sunlight has a potent influence in raising the human body from various weaknesses that sometimes are the precursors of fatal phthisis.—[*Atlantic Monthly.*

ART. IV.—METHOD OF MAKING AUTOPSIES AT THE PATHOLOGICAL INSTITUTE OF VIENNA. Report of Dr. J. W. SOUTHACK to Prof. JAS. R. WOOD, Bellevue Hospital.

Neatness, efficiency and celerity are so happily combined in this method, that we transfer its directions for the benefit of those who may be called upon to perform this duty. Its leading idea is the examination of all organs as far as possible *in situ*. Its details are as follows:

The calvarium being removed (in the usual manner), the superior longitudinal sinus and the coverings of the brain are first examined; then the convex surface of the hemispheres; these are now removed on a level with corpus callosum—the lateral and third ventricles are cut into; the corpora striata, optic thalami and tubercula quadrigemina are sliced with the knife, brain removed and base examined, and lower surface of the hemispheres, medulla oblongata and cerebellum divided into thin slices.

An incision is made from the prominence of the thyroid cartilages to the symphysis pubis. Another incision at right angles, crossing the abdomen just below the umbilicus, is made, and the flaps dissected back. Sternum and attached cartilages are removed in the usual manner; first, an incision is made into the thyroid gland of each side, larynx opened and condition examined, nothing being disturbed from its position. The lungs dragged out of the pleural cavities, still attached by their roots, are divided by an incision from apex to base, and supplementary incisions where necessary, and after examination replaced. The pericardial sac is now opened and the

heart firmly grasped in the left hand, and the interventricular septum observed. An incision is now made to the right of this septum, extending from a point between the entrance of the superior and inferior cava to the apex—this discloses the right cavities and the tricuspid valves. A similar incision is made on the left of the septum, commencing at the point of entrance of the pulmonary veins and also terminating at the apex—this exposes the left cavities and mitral valves. The knife is again entered at the first incision and carried up in the pulmonary artery to a point beyond the valves, and then a cut is made directly outward, exposing the pulmonary semi-lunar valves, and a similar incision on the left side opens the cavity of the aorta and shows the aortic valves. As may be seen, the entire contents of the thoracic cavity have been examined, and their relations remain undisturbed. In the abdominal cavity, the liver is incised in the direction of its longest diameter, and other incisions are made if necessary. The gall ducts are sought for and probed, gall bladder removed by tearing, and contents squeezed out. The peritoneum divided and kidneys dragged up with ureter intact, examined and returned. The spleen examined in the same way, without severing its attachments. The stomach is opened by the scissors along the whole length of its lesser curvature. The duodenum in the same manner. The ileo-cœcal juncture is now sought for, and the intestines divided for some distance in both directions by the enterotome—their condition examined. The rectum opened and examined in the same manner. The bladder is incised on its anterior surface, and in females, after the examination of the bladder, the incision is carried through its posterior wall into the cavity of the uterus, which is thus seen in its position. The other pelvic viscera are also examined *in situ*.

The spinal cord is examined after the Italian method; all contents of thoracic and abdominal cavity removed, the last two lumbar vertebræ are divided by a knife passed through the intra-vertebral cartilage. Right and left-handed chisels divide the laminæ of the vertebræ, and a forceps wrenches off the anterior face of the column. For methodical expedition and accurate investigation, this can hardly be bettered, and any one who once tries the leaving the parts *in situ* will never recur to the old practice of removal in detail. A practiced hand

can pass through the cadaver in a very speedy manner, and nothing ever gets confused or mixed; no time lost in straightening things. Of course, as he proceeds, an assistant notes down his remarks.

The method of preparing specimens, which are very handsome, is simple, requiring only two articles—water and alcohol. First place in fresh water, and as fast as it becomes dirty put more fresh. Continue for four or five days to do this, or place in running water for four or five hours. This is absolutely necessary, and there is no danger as long as the water is fresh. After the water cure use a solution of water and alcohol—80 parts of the first to 20 of the second. This solution is also changed every time it becomes dirty, which for the first week is once in twenty-four hours. This process is continued until there is no stain to the solution, and then it is sealed up by stretching a skin over the wide-mouthed jar and covering with a piece of lead. The secret of their uniform success is the washing away all impurities by the frequent change of fluid.—*N. Y. Med. Jour.*

ANALYTICAL DEPARTMENT

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D., Associate Editor.

Presystolic Murmur.—In his fourth lecture at the Charing-cross Hospital on Diseases of the Chest, Hyde Salter gives a definite opinion as to the cause of the presystolic murmur. He quotes from a number of eminent authors, none of whom, except Walshe, recognize such a murmur as caused by contraction, but, on the contrary, as occurring during the diastole of the heart.

As a key to the pathologieal condition giving rise to this murmur, he describes graphically the physiological movements of the heart, as regards its *systole* and *diastole*, which description accords fully with that given by Austin Flint, Jr., in his work on Physiology. During the dias-

tole of the heart the blood is flowing passively from the veins into the auricles, and from the auricles into the ventricles. When the auricles are full, they contract suddenly and sharply. By this contraction, which immediately succeeds complete dilatation, the blood is *forced* into the ventricles and they are filled. Immediately thereupon the ventricles contract. As observed in vivisections, *systole* of the whole heart is a continuous movement, commencing at the base and terminating at the apex; so that the contraction of the auricles must precede that of the ventricles.

When, therefore, a murmur antedates the *systole* of the ventricles, it is due to an obstruction to the current of blood from the auricle to the ventricle at the auriculo-ventricular opening; i. e. it denotes, if on the left side, *mitral constriction*. Such a pathological condition has, heretofore, been considered rare, because the *presystolic* has been confounded with the systolic murmur and was deemed indicative of mitral or tricuspid insufficiency.

A number of cases are given illustrative of this condition of the heart, in some of which the diagnosis, made before death, was confirmed by post-mortem examination.

Digitalis in Suppression of Urine.—Howard D. Reynolds, M.R.C.S., reports a case of suppression of urine treated successfully by the external application of fresh digitalis leaves made into a poultice. In six hours after the first poultice was applied, a pint of clear, pale urine was voided. Previous to this she had not passed more than a wineglassful of urine in six days. She had the usual symptoms observed in such a condition, for the relief of which sweating, warm applications to the parts affected and the internal use of digitalis had been employed without success. The external use of digitalis was introduced by his preceptor, J. D. Brown, Esq.

Copper as a Prophylactic in Cholera Epidemics.—The statistics of M. Burq before the French Academy of Sciences, in reference to the prophylactic action of copper in this disease, confirm the observations of Mr. Clapton in reference to the immunity of men engaged in the various copper-works in London. M. Burq states that only 1 out of every 1270 workers in copper was attacked, the whole number of men engaged in this kind of work in France being 37,000. This was during the epidemic

of 1865–6. An equal immunity was not enjoyed by workers in iron and steel.

Tartar Emetic Treatment of Nœvus.—Henry Bateman, F.R.C.S., in a letter to the Lancet, calls attention to the use of the tartar emetic plaster for the cure of this class of tumors, after having employed it successfully for fifteen years. The formula is: *Antim. Tartarizatum* one part; *Unguent Resinæ*, two parts. To be spread on thin leather or linen. When the skin is not easily blistered or the nœvus is thick, equal parts of the two ingredients must be used. The pustulation should be repeated again and again until the tumor sloughs. By this means, one case, a child, with twenty-five nœvi on various parts of the head, trunk, and extremities, was cured. Dr. Glover, his neighbor, had seen a number of cases with him.

Function of the Uvula and Mechanism of Deglutition.—Dr. John Balbirnie, A.M., of Sheffield, in a letter to the Lancet in answer to an inquiry made by another correspondent as to the functions of the uvula, states that, in his opinion, it is not an organ concerned in respiration, and only to a very limited degree is the production of the voice; that its only function is to protect the posterior nares and Eustachian tubes during the act of deglutition.

He concludes his letter with the following concise and beautiful summary of the phenomena exhibited in the mechanism of deglutition, which act he considers "*the* masterpiece of Divine invention amid a thousand other masterpieces displayed in the wonders of animated structures":

"I. We have an apparatus, alike complex and comprehensive in its parts, concentrated and packed away within the most limited space; yet there is no crowding withal.

"II. We have antagonistic operations, and apparently incompatible adjustments, all to go on, and be secured, at one and the same moment, and by structures the most easily deranged; yet there is no interference of one part with another; there is not even an approach to jar, collision, or embarrassment.

"III. We have coarse, tough, cutting, grinding organs —bodies as hard and as insensible as shears or millstones —placed in the midst of structures the most soft and sensitive; yet we do not find the exquisite perceptions and

intimations of the one to be blunted or impeded by the rough operations of the other.

"IV. Withal, provision is made at the same time that this solid machinery shall neither be a source of irritation nor be incapable of repair.

"V. We have unfailing streams of fluid supplying the mouths, so that with the operations of the mill are combined those of the washtub; we have the glands so embedded among the muscles of the mouth, that the action of these muscles in mastication determines an increased flow of fluids to the glands; and all this at the precise conjuncture of time required. These secretions, too, are subjected to mental influences by the connection of the nerves of animal life with those of the automatic or organic apparatus; so that the mere idea or sight of food provokes the activity of the salivary glands.

"VI. In the functions of the mouth, sensation, volition, thought, consciousness combine; but beyond this *janua vitæ* their ministrations cease. All henceforth are pure reflex, organic, or vegetative movements—acts subject to no caprice or control of the will, and executed with all the unerring certainty of law. Nature could not afford, indeed, to leave the further phenomena of the nutritive apparatus to the behests of the will; hardly, in fact, has she rendered them a subject of consciousness, and certainly never so in the state of health. All this demonstrates with how benevolent foresight for the welfare of the individual the Almighty Creator has removed from the government of animal life the organs subservient to the grand vital functions. A survey of the whole vindicates the exclamation of the Psalmist: 'O Lord, how wonderful are thy works; in wisdom hast thou made them all.'"

Thomas Percival, M.R.C.S., in reply to the same inquiry, states that Mr. Wheelhouse, lecturer on physiology in the Leeds School of Medicine, taught that the accumulation of the saliva and its contact with the uvula served to excite involuntary deglutition.

Another correspondent, in answer to the same letter of inquiry, suggests that the principal use of the uvula is to modify the voice and aid in the act of singing.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LECTURE ON LITHOTRITY. Delivered at the Bellevue Hospital Medical College, Session 1869–70. By W. H. VAN BUREN, M.D., Professor of Principles of Surgery and Diseases of Genito-urinary Organs.

At my last lecture I occupied your attention with the mode of formation and the diagnosis of stone in the bladder, and showed you the instruments and manipulation employed in the operation of "sounding." I pointed out to you that the best method of introducing the short-beaked sound was from the patient's right side, and that this also was the mode adopted in the introduction into the bladder of the modern lithotrite, or instrument used for crushing vesical calculi, which has also a short beak of peculiar curve. When we come to consider the question of treatment I endeavored to leave the impression upon your minds that the well educated surgeon of the present day accepts the rule, that "all cases of vesical calculus above the age of puberty are to be treated more safely by the crushing operation, or lithotrity; the cutting operation, or lithotomy, being regarded as an exceptional resource." Below the age of puberty I told you "that lithotomy, on the contrary, was to be considered the rule and lithotrity the exception,"

This doctrine may strike some of you as novel, but I am compelled by facts, and by the experience of the last ten years, to present it to you as correct. Under these circumstances it behooves you, and especially those amongst you who belong to regions of country where calculus disease is of common occurrence, to make yourselves familiar with the details of the so-called "crushing operation;" and I can assure you that this knowledge

will repay you well for the time and efforts spent in acquiring it. Lithotrity is no longer to be regarded as an ingenious and fanciful device of uncertain value, but as a firmly fixed and established operation of surgery, which promises a cure for the most painful disease incident to humanity—safer than the hitherto more common cutting operation, and equally certain in its results. It is rapidly gaining in popular confidence, and sufferers from stone will seek aid of those who can offer them this prospect of relief, rather than submit to the knife. I do not know that lithotomy can do more now than in the days of Benjamin Franklin and d'Alembert, when those philosophers, after deliberate consultation together in Paris, came to the conclusion that the operation did not repay its risks, and that they would suffer on to the end—which they did. At the present day, the majority of adult's suffering from stone, in face of this solitary and somewhat desperate resource, arrive at the same conclusion.

But lithotrity, gaining steadily in perfection of detail and certainty of result, offers a chance of escape from pain and peril that will be far more generally embraced, and I feel confident that the operation of lithotomy will be hereafter performed less and less frequently.

The object which it is proposed to accomplish in the operation of lithotrity is to reduce a stone in the bladder to powder, or to fragments so small that they may be voided readily through the urethra, and this without injury to the bladder or urethra.

By whomsoever originally devised and more or less imperfectly executed, to Civiale, of Paris, the credit is universally conceded of having systematized the crushing operation and demonstrated its value to the world by curing many cases of stone. He laid down the rules for its performance and general application which guide us

mainly at the present time. But the operation has been perfected by suggestions from many quarters, its mode of performance improved, and the range of its applicability extended, and by no one person more than Sir Henry Thompson, of London, who may be regarded as the highest authority amongst living lithotritists. It is his crushing instrument that I here show you as the most perfect yet contrived, and I refer you to the books for the history of the successive phases through which it has passed before reaching this form. The object sought has been an instrument light enough for easy manipulation, yet of adequate strength, and containing within itself a reserve of force sufficient to crush the hardest stone to fragments, and afterwards to reduce these fragments to powder. In this you have these qualities combined; a sort of forceps with one handle sliding in the other, forming the straight and slender shaft of the instrument, terminating in somewhat flat and roughened blades curved for the double purpose of readily entering the bladder through the urethra, and also of seizing most advantageously the stone to be crushed when in its cavity. The male blade, as you see, is readily detached, and is formed at its other end by a stout endless screw, into the thread of which, by means of this button and spring, a cog contained in the handle of the female blade is thrown by a touch, and as readily released again from its contact, thus placing the reserved screw power at the instant command of the surgeon when required. There are two instruments of this construction that you will need; one, of greater power, for first crushings; the other, for fragments. The first, as you see, has somewhat longer and stouter curved blades, the male showing larger and sharper teeth, and the female presenting a large opening, from which latter circumstance it is known as the *fenestrated* lithotrite; the other, called, by way of distinction,

the *scoop* lithotrite, has shorter, broader, smoother blades, is manipulated in the bladder more easily and with less discomfort to the patient, and is, in fact, the instrument with which nine-tenths of the work is done in lithotrity. You may want, besides these lithotrites, a large-eyed catheter and injecting bag, and a pair of long slender forceps, by means of which a fragment could be removed from the urethra.

Now, how are you to distinguish the cases of stone in the bladder for which it is your duty to employ lithotrity? By the following conditions: 1. The patient must have a normally capacious and healthy urethra; 2. A stone not too large or hard, say not over two inches in its largest diameter, certainly, and not of oxalate of lime, unless quite small; 3. A bladder not too acutely inflamed, or too profoundly altered in texture; 4. A fair degree of general health and docility of disposition.

This last condition would exclude children, even if the disproportionately narrow urethra and very sensitive bladder of the child, and the great safety of lithotomy at the period of life, did not make this the preferable operation.

The first condition is very important, for let me tell you that a patch of unhealthy urethra will almost certainly grasp a fragment of stone as it is passing out, and this liability to impaction of fragments, which, with proper precaution, should never occur, is a very unpleasant complication. I was obliged to cut a middle-aged gentleman, a few years ago, who had an old and not very tight stricture, some five inches from the meatus, but it had this peculiarity, that every time that I carried dilatation beyond No. 9, the patient had a smart chill. Under these circumstances I performed the lateral operation and removed a calculus, composed of urates, about an inch in diameter, and he rapidly recovered. But for

the stricture, this would have been a proper case for lithotrity. During the past summer, I was obliged to perform lithotomy by the median operation, after dividing an old and dense stricture through the perineum, in a gentleman aged 38, and removed three small phosphatic calculi, which, with a healthy urethra, could have been readily crushed. The patient recovered entirely, and now introduces No. 17 for himself. Mr. Walter Coulson* reports a case in which he dilated a recent stricture and then crushed a small calculus; but a fragment stuck at the unhealthy point of the urethra. It was removed and the patient ultimately cured. Even a slight laceration of the urethra, caused by rough handling of instruments, is almost sure to occasion impactions. The instruments I have shown you are equal in size to Nos. 9 or 10 in the shaft, and 12 or 13 in the blades, according to the common catheter scale.

The limit of size in a calculus, which may be successfully crushed, can hardly be determined with precision, the question depending also upon the degree of hardness of the stone, and the tolerance of the patient's bladder. You would be justified in attacking a much larger stone consisting of the phosphatic salts than of the urates, or of the oxalate of lime. Again, the quality of a known nucleus which had been introduced from without, might settle the question; you could not crush a piece of sealing wax at the temperature of the bladder, nor a bone pen-handle, such as I exhibited to you, encrusted with calculous matter, which had been removed by cutting operation from the bladder of a patient in the New York Hospital, by Dr. Allen. I was once so fortunate as to bring away a fragment of catheter, on which a calculus was forming, in the jaws of the lithotrite.

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*Stone in the bladder, with special reference to the prevention, early symptoms, and treatment by lithotrity. By Walter J. Coulson, F.R.C.S., London. 1868.

In regard to the third condition—tolerance on the part of the bladder—you have to expect more or less cystitis of course from the presence of the stone, and this is liable to vary greatly in degree. Extreme sensibility of the bladder does not, of necessity, indicate the presenee of a high grade of inflammation. A young man, with an oxalate of lime calculus, is a great deal more sensitive, than an old man with a phosphatic stone, although the latter may have an atonied, hypertrophied and dilated bladder, and the former but a moderate amount of superficial cystitis. Careful study of the case during the preparation of lithotrity will make you acquainted with the temper of your patient's bladder, and this careful preparatory study and treatment, I need hardly tell you, is all important. A patient may come into your hands suffering extremely with most frequent and painful calls to urinate, who is ignorant of the nature of his disease, and has been taking no intelligent care of himself. To introduce even a sound into his bladder would seem, and would be in truth, cruel. A week's rest, with the judicious use of anodyne suppositories, baths, dilutents and calming remedies, would in most cases take the edge off of his urgent symptoms and enable you to pass an instrument into the bladder with little or no pain. I had an old gentleman brought to me not long since who was half frantic with constant pain at the neck of the bladder and most urgent desire to urinate, with other symptoms pointing to stone. He had been suffering for a few weeks only, and had insisted upon continuing his usual habits and pursuits. I succeeded in getting him on his back in bed, and by elevating his pelvis rolled the stone away from the sensitive neck of his bladder. He was soon so much better that I found and crushed a good sized stone of which he was entirely relieved in a few weeks, without any return of serious pain. In these

cases *extreme gentleness of manipulation*—especially in the earlier dealings with your patient—is a great secret of successful lithotrity. No man living understood this better than Civiale; in this quality of gentleness he was remarkable as an operator. We learn from him also the great practical importance of the fact, that *the urethra and bladder may be trained up to the point of tolerance by gentle perseverance in the use of instruments.*

These hints will have posted you up in the details of the preparatory treatment so necessary in most cases before lithotrity. And now for the operation itself. My usual plan has been, after having gently introduced a steel sound and immediately withdrawn it, daily, for a longer or shorter time, according to the requirements of the case, then to substitute a lithotrite, introduced and withdrawn forthwith. On the second or third occasion of passing the lithotrite, if you have previously elevated your patient's hips sufficiently by a cushion or hard pillow, you will doubtless strike the stone favorably. Whereupon, carry your instrument a little farther on, giving it a rather wide birth, open the jaws of the lithotrite, rotate its handle so as to bring the open jaws by a lateral movement in proper relation to the stone, close them upon it, and, if you can, crush it. If you should not encounter the stone as your instrument glides gently down the inclined plane formed by the floor of the bladder, (as I described when showing you the mode of introducing it), as soon as its convexity reaches the fundus, carefully withdraw the male blade an inch or two, according to the size of the stone, and elevate slightly the handle of the instrument, by which movement the convexity of the female blade will tend to bury itself in the floor of the bladder, and the stone will almost certainly roll in between the blades, as you will recognize in attempting to close them. Having thus seized it, lower

the handle of the lithotrite a very little, so as to lift its jaws, with the stone between them, from contact with the floor of the bladder, and holding it lightly but firmly, turn on the screw power by a touch of the button in its handle, and steadily screw home. Then, turning off the screw-power by sliding the button forward, carefully open the jaws of the instrument and incline them by gently rotating its handle to one side until they are nearly horizontal in position, unless previously arrested, and then as carefully close; if you find a fragment between them, grasp and crush it; if not, repeat the same manœuver by rotating the open blades of the lithotrite to the opposite side. By studiously maintaining the blades of the instrument in the same relation to the walls of the bladder throughout your manipulation, and by exactly repeating the manœuver by which you have caught a fragment, you will be almost certain to catch another in just the same spot; for the fragments always fall together. Within the limit of five minutes, the instrument must be withdrawn, whether you have been successful or not; and in half this time, if your patient has suffered any serious amount of pain. You will do well never to transgress this rule. The degree of sensitiveness of the bladder, the temper in which you find it, so to speak, must guide you as to the exact duration of the *seance*, as the French call one of these crushings, but never exceed the limit just mentioned. The danger of subsequent inflammation bears a pretty exact relation to the length of time the lithotrite has been kept in the bladder, and to the amount and degree of its contact with the vesical walls.

In withdrawing the instrument, be sure that the male blade has been screwed well home so as to avoid injury to the neck of the bladder or urethra from the presence of fragments, or of much débris, between its jaws. It is a

mistake to suppose that it is desirable to bring away any considerable portion of the stone in this manner; and in the earlier essays at lithotrity, this mistake often led to serious consequences. Such is the evidence of Sir Benjamin Brodie, who did more than any one else to introduce this operation into Great Britain. If the stone is properly pulverized it will come away through the urethra much more promptly and safely than it can be rought by the instrument.

In attempting to give you a correct idea of the manipulation to be observed in this delicate operation, for as such it must be regarded, I am striving to bring before you the facts and suggestions taught by experience, and am anxious not to embarrass you by too minute details. When its principles are clearly grasped, details may be safely left to the tact and necessities of the operator. Then, on introducing the lithotrite, you are not to feel around in the bladder for the calculus, as in sounding; this mode of proceeding would fatigue and annoy the bladder by too much contact of the instrument with its walls. But, having elevated the patient's hips, so that the calculus, whose presence and mobility you have already ascertained, will roll almost certainly into a known and familiar locality in the bladder, for you cannot forget this excellent drawing of the parts,* here you approach it with your lithotrite, confident of its situation. You open the jaws of the lithotrite, present them thus open in the spot that you know is occupied by the stone, and, on closing, find it in their grasp, although you may not previously have felt it. Here is a principle you would do well to ponder. The bladder, apparently, can tolerate a certain amount of gentle contact from instruments without resenting it, and we must not exhaust this tolerance by aimless manipulation. We should act, if I may

*From Sir H. Thompson's "Practical Lithotomy and Lithotrity." London. 1863

so express myself, as though the bladder were asleep, and we were seeking to accomplish our object without awakening it.

Again, remember, in opening the jaws of the lithotrite, to withdraw the male blade with great care, for it is liable to impinge upon the neck of the bladder, and this is by far the most sensitive part of the organ. Neglect of this point is almost certain to arouse the bladder to resent the intrusion. It is better often, if you can acquire the requisite tact, to hold the male blade in position and open the instrument by projecting the female blade, and thus avoid contact with the neck.

Again, as life advances, the base of the bladder in our sex is liable to become dilated from over-distention, even when there is no enlargement of the prostate, and thus a *bas fond*, as the French term it, is formed, in which a movable calculus will almost always be found. This necessitates a still greater degree of lateral rotation of the jaws of the lithotrite in order to seize it advantageously; they must be carefully rotated beyond the horizontal position before closing, even into the vertical position reversed, or looking downward toward the floor of the *bas fond*, the handle of the instrument being at the same time depressed to facilitate the manœuver. This sort of manipulation becomes still more necessary when dealing with an enlarged prostate, as you can understand by a glance at the drawing representing a case in which the stone could have been grasped only by the reversed position. In fact, I explained its necessity in showing you the operation of sounding, where it is necessary to reverse the sound with the short curve, so as to enable its beak to sweep the floor of the bladder in order to discover the stone.

Here, also, the position of the patient is of great importance. He must lie on his back, on the right side of

the bed, with the knees semi-flexed as heretofore; but the pelvis must be raised to a level some inches higher than that of the shoulders, by means of a solid cushion placed beneath the hips. This position tends to dislodge the stone from the *bas fond* behind the enlarged prostate, and to roll it toward the true fundus of the bladder, where it is far more easily approached by the crushing instrument.

As to the amount of urine in the bladder at the time of operation you simply require enough to insure a cavity of sufficient size to permit the curved jaws of the lithotrite to be opened and rotated without danger of hurtful contact with its sensitive walls. If your patient can hold his water for an hour before your visit you are sure of this; and you might do with less, but it is better to strive for further amendment by prolonged preparatory treatment than to incur the increased risk. And what is the risk? Simply of aggravating the existing cystitis and rendering it more uncontrollable. There are cases in which it is justifiable to incur this risk, where the bladder resists soothing measures, for it is an undoubted fact, which we have been taught by experience, that the irritability of the bladder is apt to diminish after the first crushing, if accomplished without too much violence. But these cases are exceptional. So also is the necessity for the use of chloroform or ether. If the operation is fairly performed upon a patient, judiciously selected and prepared for it, it is attended by so little uneasiness or pain that no anæsthetic is required. As a rule, it is better both for surgeon and patient that anæsthesia be not employed.

Injection of the bladder with tepid water previous to the operation is not, according to my experience, a wise measure. It sounds well, but it involves additional introduction of instruments and an increased amount of

manipulation, and is very likely to arouse an otherwise quiet bladder. You had better trust to the tepid water, which is more quietly and gradually distilled into the bladder from the kidneys.

In regard to the after treatment to be employed when you have crushed a calculus, the most important point is to keep your patient quiet upon his back for at least thirty-six hours, requiring him to pass his water in this position, or at least without rising. By this precaution you will almost certainly avoid a complication otherwise not unlikely to occur—the impaction of a fragment of the crushed stone in the urethra. The fragments, at first sharp and angular, become in a day or two rounded at their edges, "water-worn" in the language of Sir Henry Thompson, who lays great stress upon this point of practice, and therefore less liable to create irritation or to be arrested in their passage. The two points in the urethra where this accident is more liable to take place, is just within the opening in the triangular ligament, and at the external meatus. Here your slender urethral forceps come in play, and if they should fail, you may endeavor to push the fragment back into the bladder with a full-sized catheter, or, if you possess them, make use of those more complicated instruments contrived expressly for this purpose. The last resort is to cut down upon the fragment, and this is rarely necessary —unless indeed it has lodged just within the meatus, when the orifice should be nicked at its inferior commissiure without hesitation, as extracting instruments do not act to advantage here.

Besides the rest in bed, other after treatment amounts to little. A warm drink, a fomentation or poultice applied over the lower part of the belly; warmth to the feet, or, if your patient is very irritable, an anodyne suppository in the rectum. In case of a chill, do not be

alarmed or treat it too actively. It is most likely a "nervous chill," and does not necessarily bode evil. In malarious regions, and in persons who have ever suffered at any time from malarious poisoning, these nervous chills recur on very slight provocation, especially when offered to the genito-urinary organs.

All fragments resulting from your crushing operation which have proved too large to pass by the urethra within a week are to be treated as so many calculi and crushed again. To this proceeding the same rules apply.

How soon shall the operation be repeated? The patient's condition must determine. Civiale's experience fixed the interval at from three to eight days. Now and then, where the stone is small and the bladder healthy, it is gotten rid of entirely after one crushing. To secure such results as this, the disease must be recognized and treated early. On the other hand, a case is on record where a patient was cured after *seventy* sittings.

I have thus endeavored to give you, as well as I can in the short space of time allotted to me, a correct idea of the operations of lithotrity as performed at the present day, but it is necessarily imperfect in many details. Some of these I will endeavor to supply at our next meeting. The best text-book on this subject is Sir H. Thompson's "Practical Lithotomy and Lithotrity," of which, I am informed, a second edition is shortly to be put forth, and of this I trust there will be an American reprint. Mr. C. Hawkins' article in Holmes' Surgery reproduces Sir B. Brodie's experience mainly, but an author who speaks of the mucous membrane of the bladder as "secreting a quantity of phosphate of lime," I can hardly recommend you to follow implicitly. Mr. Coulson's "Lithotrity and Lithotomy" is excellent, but hardly up in the latest improvements. This cannot be said of the recent work on the treatment of stone by lithotrity,

by Mr. Walter Coulson, to which I have already referred. The literature of our own country will furnish you little aid in investigating this subject in the way of practical experience, but I am confident that the day is not far distant, when the crushing operation for stone will be more frequently resorted to by American surgeons, and doubtless rendered still more perfect in its details.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, November, 1869.

Treatment of Lateral Adhesions of the Fingers—Syndactylie—Palmed Fingers.—The operative procedures of syndactylie are very numerous; few, however, insure a radical cure. Whatever process may be employed, the first step to take is to separate the united fingers, e. g., divide the vicious adhesions, which, generally speaking, presents no difficulty. The second step of the operation is to obtain the isolated cicatrization of the bleeding surfaces. This is more difficult. The simple incision of the palmature, its destruction by cauterization, by compres- and by the ligature, the excision, the suture, all have been resorted to, with variable results, and all, we might say, are to-day abandoned for the autoplastic operations.

Several of these latter exist, but the only two worthy of mention, and which have given the best results, are those of Zeller and of Didot.

The operation of Zeller (see Fig. 1) consists in cutting a triangular flap in the following manner: Two incisions, C D, are practiced, commencing on the dorsal aspect and near the base of the two first phalanges, extending as far as their digital extremities, E, where they unite after having circumscribed a triangular flap with free apex and adherent basis; after this flap has been reflected from

the summit toward its base, the section of the palmature is completed in A.

The fingers are now separated and the reflected flap, E is fixed to the palmar surface of the hand by means of a strip of adhesive plaster or a point of suture.

FIG. 1.—The incisions, C E and D E comprise the dorsal aspect of the skin This flap, L, is reflected over the dorsal surface of the hand. The flap, L', is then brought back into the angle of the division and attached to the skin of the palm of the hand by sutures.

The operation of Zeller is not a bad one, inasmuch as it attends to the restoration of the commissure. We know, in fact, that herein lies the great difficulty of the treatment; for if the commissure is not formed of healthy skin, the cicatrix advances insensibly toward the extremities of the fingers and adhesion takes place in spite of the surgeon's best efforts to the contrary. The process of Zeller, in this respect, therefore, is quite a progress. But the objection which, on the other hand, might be urged against it, is the very frequent occurrence of sphacelus of the point of the flap, to say nothing about the difficulty of its dissection in many cases.

Didot (Bull. de l'Acad. de Bruxelles, 1850, t. ix., No. 5), being called to see a young girl, who presented a dense interdigital septum, uniting the four fingers of the left hand, and extending to the middle of the second row of phalanges, operated successfully as follows:

A longitudinal incision, passing along the central line of the dorsal surface of one of the fingers, E F, and having the same length as the interdigital membrane, was the first step of the operation. (See Fig. 2.) Two other incisions, E D and F G, falling perpendicularly upon the two extremities of the first, and consequently corresponding to the extremities of the palmature, were next practiced.

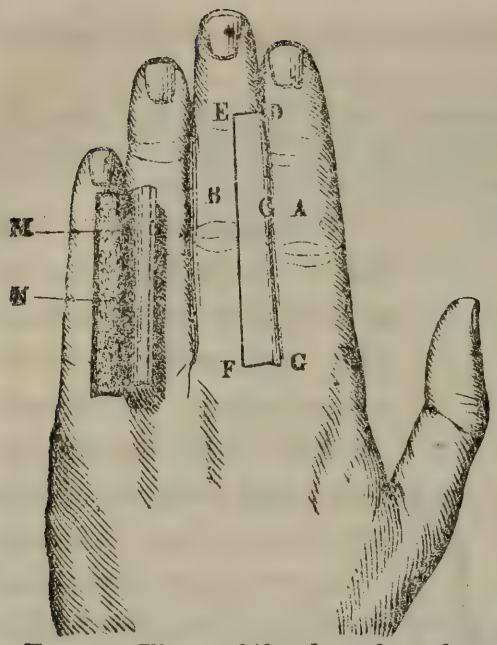


Fig. 2.—Flaps of the dorsal surface. Compare also Figs. 3 and 4. A, index; B, middle finger; C, the web; E F, longitudinal incision in the middle of the dorsal surface of the medius; E D and F G, horizontal incisions; M, flap reflected; N, bleeding surface.

sulting in flap E' D'.

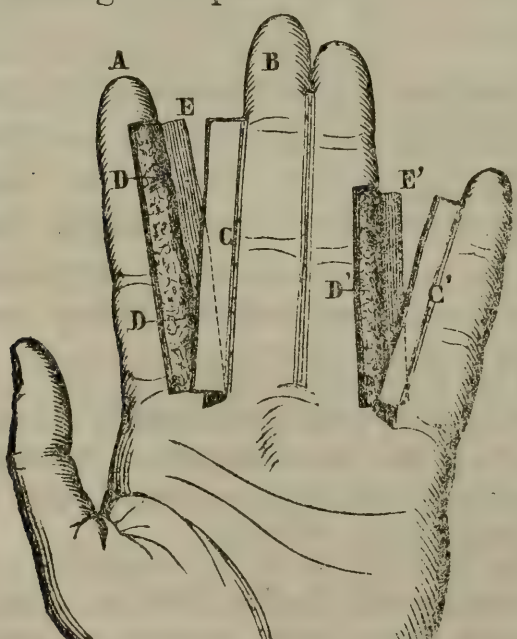


Fig. 3.—Incisions of the palmar surface. C C', palmar flaps, holding to the palmar surface of the middle and little finger; D D', bleeding surfaces on index and annular, to which the flaps, E E', formed from the dorsal integuments of the middle and little finger, are to be adjusted.

The integuments included in the three preceding incisions were carefully dissected, leaving a quadrilateral rectangular flap, M.

The second step in the operation was the formation of the palmar flap. (See Fig. 3.) For this purpose, incisions, similar to those of the dorsal aspect, were practiced on the palmar surface of the opposite fingers, care being taken to prolong the longitudinal incisions close to the articular fold of the first phalanx, re-

The flaps were now affronted.

If we take Didot's case as an example, we observe that the dorsal flap was taken from the auricular and the palmar flap from the annular. These flaps were then placed so that the bleeding surface of the dorsal flap, M N, taken from the little finger (Fig. 2), covered the inner, bleeding surface of the ring finger; and that the palmar flap, C', taken from the ring finger, covered the bleeding surface of

the little finger. Thus the epidermic surfaces faced each other when the fingers were brought together. (See Fig. 4.) A few sutures sufficed to keep the faced surfaces in contact.

FIG 4.—1. United fingers. A A', dorsal and palmar incisions; C, line of dissection; O P, dorsal and palmar flaps.
2. Same disposition, with the flaps detached.
3. The same flaps applied to the corresponding fingers.

Complete cicatrization was obtained in the course of a week. The adhesions between the middle and ring finger were operated two months later, in the same manner, and with equally good success.

But it must not be forgotten that the operation of Didot, although giving excellent results in many cases, is not applicable to all, especially not if the interdigital membrane is thin and narrow. Its execution, moreover, demands a certain tact on the part of the operator.

The operation of M. Fort, about to follow, is not difficult; it fills the same indication as the other two, and is applicable to every case of webbed fingers, congenital or accidental. The operation is described in his late *Thése de Concours pour l'Agrëgation*, 1869, from which the annexed figures, and the great part of this article is taken.

Dr. Fort, like many other competitors, was unsuccessful in his attempt to be admitted as fellow professor of our school. However, this, be it said *en passant*, is by no means a strict test of merit. Lest a man is well backed

poussé as it is called, his chances are but few. Here, obtaining rank in medicine, like politics at home, all is a matter of policy and wire-working. Of course the candidate must not show himself too ignorant; but even then the case is not impossible, as I know of an instance where a young American Doctor, passing his Doctorat again in Paris, very feeble in his third examination (comprising chemistry, botany, zoölogy, physics, etc.,) managed to get through by backing a strong letter of recommendation with a demijohn full of good old Bourbon whisky—a rare article in these parts—of which, as my friend had previously learned, the president of that board knew the value.

This, as one instance in many, shows to you that the French, though fond of science, may be overpowered as well as other people.

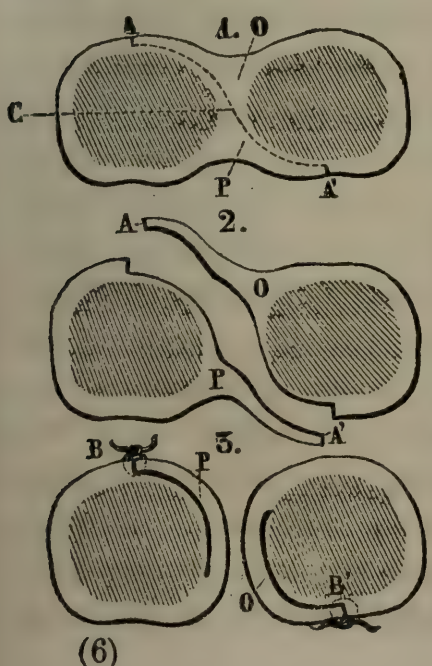
The first step of Dr. Fort's operation consists in passing several threads along the borders of the web, which is then divided, and the sutures completed, as in Dieffenbach's process. This leaves a linear cicatrix along the ateral surfaces of the fingers. The hand is now placed upon the digitated splint, the fingers separated; but before complete cicatrization has taken place, the second step of the operation begins. A curved incision of about one inch in length and following the direction of the commissures of the fingers is practiced with the point of a bistoury, so as to enable the operator to separate the dorsal skin of the interdigital space from the skin of the palmar surface. Owing to the loose cellular tissue situated beneath the skin of the dorsal surface, this separation presents no difficulty, and may be accomplished with the handle of a bistoury or any other small blunt instrument. After the skin of the dorsal region has been

FIG. 5.—1. Vestige of interdigital membrane previously incised. 2. Concavo-transversal incision near the commissure. 3 3. Two incisions circumscribing the borders of the cutaneous dorsal flap. 4. Dotted line indicating the extent of the subcutaneous separation of the same flap.

sufficiently raised from the cellular attachments beneath, a small incision is made at each extremity so as to form a semi-lunar flap.

This done the hand is turned and the skin of the palmar surface of the commissure refreshed for the reception of the dorsal flap, just described.

For the perfect juxtaposition of this flap to the refreshed palmar surface, it should be incised so as to form three lesser flaps, which are each drawn over and attached to the bleeding surface on the palmar aspect of the hand.



(6)

The hand is again kept immovable upon a digitated splint until perfect cicatrization has been obtained.

This process of operating palmed fingers is called *autoplastic process by inflexion.* The operation is easier done than described, but its merit consists in giving *healthy skin*, covered with epithelium, to the commissure which—lest this is done—always tends to produce vicious contractions, ending in rendering the oper-

FIG. 6.—1. Vestige of interdigital membrane previously incised. 2. Commissure formed by the skin of the dorsal surface, brought over to the palm of the hand. 3 3. The lateral borders of the same dorsal flap brought over to the palmar surface. 4 5. Union by suture of the free border of the dorsal flap to the palmar surface.

ated fingers useless or nearly so.

Our different scientific, medical and surgical societies have been unusually dull of late. The Académie de Médecine has passed many sessions in hearing M. Depaul's report on the danger of vaccination from arm to arm, especially as regards syphilis, and M. Guérin's defense of Jenner's old system. Certain it is, that Depaul has brought undeniable cases of syphilis communicated in this way, some of which have been quite unfortunate in their issue. Now, as syphilization is impossible in the bovine race, and the matter from the cow equally effective, (proved by late statistics on a vast scale), I do not see why vaccination from the heifer can still find adversaries, particularly in a large city like Paris or London, where vaccine stations can be easily established, ready to supply every demand.

Another, inexhaustible question, one which greatly interests France, is the rearing of nurslings. Our population, as you are probably aware, is not fast increasing: the mortality of infants is very considerable. All possible measures to avoid this, and to ameliorate the present condition of affairs, have been suggested and discussed; but all must fall to the ground, it seems to me, lest French mothers will learn to suckle their own offspring. As it is, children are given out to nurse (many come back in a wooden box), and from the rich to the poor none can think of nursing their own children. Perhaps, if the law would force mothers to rear their children, since this is not done willingly, France, like other European States, would see her population increasing. To show you that this is a ticklish point to speak of frankly here, a late article in the Gazette Hebdomadaire de Médecine

et de Chirurgie so much displeased the Government that the editor, M. Déchambre, was politely asked hereafter to keep within the limits of his calling and not to make the question one of political economy, etc.

The hydrate of chloral fever is somewhat abating! Our French experimentalists do not agree altogether with Liebreich or Richardson as to the effects of hydrate of chloral on the animal economy; this may possibly be due, however, to the preparation employed. I have seen a good deal of its use now in our hospitals. It is certainly a hypnotic if administered in moderate doses, say three grammes (about 50 grains). ℞. Hydrate of chloral, 50 grains: simple sirup, 1 ounce; of which a dessert-spoon full every hour, or the whole at once, is administered according to the case.

The sirup hides the pungent taste, which, if the hydrate is given in water, and though much diluted, is always perceptible. The best use I have seen of it was the other day in Bouchut's wards, where a child, suffering intensely from chorea, was kept under the influence of chloral for twenty-four hours, and in which the disease, at the lapse of that time, if not entirely cured, was certainly ameliorated in a most remarkable degree.

As an anæsthetic it will never be resorted to as long as we have chloroform; and even in its inner administration, it differs but very little from the latter medicament. I have seen in Prof. Gubler's wards at the Beaujon Hospital, who at this moment is comparing chloral and chloroform, that the difference between these two preparations is really very slight. ℞. Chloroform (3 grammes) 90 drops; sirup, 1 ounce; given by the dessert spoonfull produces in all—except a difference of a few tenths part of a degrees in the lowering of the temperature—equal results. These comparative trials are always made upon the same individuals and without their knowledge, of

course, as to which of the two medicines are administered, and it is wonderful to see how the symptoms approved are the same.

To those of our American experimentalists, who are giving chloral a trial, I would take the liberty of suggesting, to be guarded against early conclusions, for they will find that the dose at first administered afterward ceases to give equal results. Whether this difference of action is due to "tolerance" I do not mean to explain, I simply note the fact. R. R. Good, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Art. I.—Darwinianism: "On the Origin of Species by Means of Natural Selection. By Charles Darwin, M.A., F.R.S., etc." "Principles of Geology. By Sir Charles Lyell, etc. Tenth and entirely revised edition. London. 1868." "London Quarterly Review. No. 252. April, 1869." "North British Review. No. 100. July, 1869."

The Divine Word and all human history concur in bearing witness to the tendency of the sin-disturbed soul to hide itself from God, to shut God out from its knowledge and conception. This can be done as effectually by the substitution of false gods for the true, as by the atheistic denial of any God. It is a melancholy testimony to the universality of this tendency that so many of the distinguished votaries of modern science should put forth in rapid succession wild and contradictory theories impugning the truth of God's revealed Word. No sooner is such a theory proposed than it is immediately invested with the name of science, and the timid Christian be-

liever who ventures to deny or doubt is forthwith stigmatized as the bigoted enemy of science. Any fancy that has a run with a certain portion of the scientific public, is at once elevated to the rank of science, and must not be called in question, at least by the Christian part of the community, under penalty of this denunciation. A little while ago we had a large section of the men of science exclaiming against the Mosaic record, because it seemed to teach the unity of the human race. There are as many distinct centres of creation as of races of men, said the fashionable science of twenty-five or thirty years ago. Now we have a still larger section yet more indignant or contemptuous, because that Scriptural record is inconsistent with the unity—the blood-relationship—of all living creatures, and does not teach that all organic life is derived by direct genealogy from "one, or at most four or five, primordial forms." This latest form or freak of science, "falsely so called," by dint of persistence and assertion, is obtaining a very general popular recognition. The mere literary men, who are not scientific, suppose that they must admit the dogma, and familiarly use its language, or lose caste in their own profession. Even the "London Quarterly Review" and the "North British Review" have, within the year just closed, given in their adhesion to the Darwinian account of the orgin of living forms.

Any real antagonism between science and Christianity is simply impossible. There may be and often has been antagonism between science and the unlearned professors of Christianity, of which the constantly cited case of Galileo and the Inquisition is an illustrious instance. There may be and often has been antagonism between the crude theories of scientific men and Christianity. Again, on account of the imperfection of our vision, there is sometimes a *seeming* antagonism between equally

incontestable truths. The harmony of the universe is made up of such apparent antagonisms. But between science properly so called and Christianity there can be no opposition, *for all truth is one harmonious whole.* Whenever a fact really discovered by science seems to be in opposition to some Christian truth, the fault may be in our apprehension of the fact, or in our apprehension of the revealed truth supposed to be impugned; and in advance of science on the one hand, or of the critical faculty and apparatus on the other, may at any time remove the supposed contradiction.

The great antagonisms in this world are between truth and falsehood. Real science, therefore, may be come the opponent and the destroyer of superstition, of such religion as was set forth a few years ago in the syllabus of the reigning Pope, but not the opponent of the Christianity of the Bible and the Creeds. But crude theories, seized upon by the enemies of truth as weapons against Christianity, and usurping the name of science, must be exposed.

The marvelous discoveries of physical science in our day have given to that department of human learning a sort of monopoly of public estimation. By a very common law of the human mind, the more adventurous leaders in the domain of these sciences have essayed to embrace within the limits of their own favorite pursuits all human knowledge. This attempt is not itself a novelty; for it has ever been a characteristic of mankind. It comes from the combination of two other universal characteristics, the essential narrowness and the pride of the human intellect. No one mind can embrace all knowledge; but when, with great labor and praiseworthy diligence, a man has contrived to acquire a large amount of knowledge in several fields of research, he is apt to dwell with such complacency upon the results of this labor as

to fancy that there is really nothing valuable beyond, and that all other facts and phenomena of the universe may be classified under the same general principles with which he is so profoundly conversant.

In former ages, when there was really no physical science, and the loftiest minds expended all their powers upon the intricate problems of metaphysical research, it was very common to include all the known physical phenomena within the categories of the prevailing metaphysical system, and to construct cosmogonies out of the same materials with which the latest speculative philosophy was framed. Now, when physical science is in the ascendant, the tables are completely turned, and the physical philosopher superciliously includes within his *classes* all moral and spiritual phenomena. In both instances the process was perfectly natural. The marvel in the modern instance is that so many persons, dazzled by the brilliancy of physical discovery, are conceding to these gentlemen their extraordinary and unfounded claim.

Another peculiarity of one large section of the common physical philosophy of our time is its striking deficiency in logical power—in close and consecutive reasoning: This also naturally comes from the exclusive devotion of the mind to the observation and collection of phenomena. The finite mind, intensely engaged in one mode of action, gradually loses the capacity for strong and vigorous action in an opposite mode. And the general neglect of those most efficient trainers of the intellect, moral and metaphysical philosophy, may help to account for the facility with which the general public is yielding to the claims of physical science to cover the whole area of human knowledge, and to embrace the whole realm of being.

The reviewer of Sir Charles Lyell in the "London

Quarterly" seems to think it a wonderful effort of magnanimity, as well as a testimony to the convincing force of the evidence in the case, that Sir Charles Lyell should become the advocate of Mr. Darwin's theory after having condemned it. This exalted estimate of Sir Charles seems to us to be founded on an entire misapprehension of the peculiar qualities by which this gentleman has attained to such deserved eminence in his one department. As an indefatigable collector of facts in that one science —geology—he is entitled to all praise; but in the use which he makes of those facts, he has a very free imagination and very small logical power. The reason of his conversion to Darwinianism seems to be that the theory struck forcibly upon his imagination. He opposed it at first, because it was contradicted by his own favorite science. But his imagination was captivated; and besides, it concurred precisely with his own specially cherished geological dogma, in calling for indefinite billions of ages for the accomplishment of its results. Then, again, it accorded happily with the anti-Christian tendency of modern science. So the professor went over to the side of his friend, and easily disposed of the opposing facts of geology by saying that we do not know enough of geology to permit its facts to contradict a well sustained theory. We shall preaently see how well this theory is sustained. Mr. Darwin had already disposed of the strong evidence of geology against him, by giving us a long chapter of his ingenious book upon "The Imperfection of the Geological Record."

The necessity for this apology for the pregnant silence of this witness arises in this way. All the facts in natural history during the historic period of the world are are against the theory. The testimony of no more than six or seven thousand years is therefore promptly and contemptuously rejected as of no weight at all, because

too recent. The changes called for by the theory require more time, its author says. The inconceivable ages revealed by geology are necessary. To the geologicel record let us go, then, for the confirmation of the theory. The response there is precisely the same as in the brief historical period, It furnishes no confirmation. This would seem to put an extinguisher upon the theory. But an enthusiastio theorist is not so easily baffled. The required evidence, if not found, can be imagined. And the theory is sufficiently sustainod, in the estimation of its author and its school, by the fact that the record, so far as we know it, is imperfect, and by the *supposition* that the missing portion may furnish the needed testimony. This is, all that is *known* of the existing historical period, and all that is *known* of the past geological periods, contradict the theory, but there is a vast *unknown* which *may* furnish abundant proof of the theory! And this is called science! Mr. Darwin states his theory in two forms on the same page.

"I believe that animals have descended from at most only four or five progenitors, and plants from an equal or less number."

"Therefore I should infer from analogy that probably all the organized beings which have ever lived on this earth, have descended from some one primordial form, into which life was first breathed." (Page 240.)

The facts upon which this astounding theory professes to be founded, are, 1st, The unity of type which characterizes all living things: 2d, The beautiful gradation by which allied forms approach each other, thereby puzzling the naturalists very much in adjusting their systems of classification; 3d, The variability of certain forms of life under the culture of human skill and intelligence.

The propositions which constitute the theory, and which are supposed to be based upon these facts, are also three, 1. There is over production, and a consequent struggle

for life in all living forms. 2. The strongest prevails, and propagates itself, producing a higher organization, which displaces the previous lower one. 3. The continued repetition of this process has evolved from one, or at most four or five primordial germs, all living forms. The wondrous variety and yet more wondrous adaptation of each specific form to the conditions of its life were produced by the action of a supposed faculty in the said primordial germ, and in each of its descendants, which the ingenious inventor terms "Natural Selection."

It should always be remembered that theory is not science. Theory is very useful, and may be an important aid to science when it is legitimately used as a guide to experiment and observation. But when used as the basis for dogmatic assertion, and elevated into the place of science, it is simply hurtful and presumptuous.

There is another theory in regard to the existence and diversity of living forms in this world, which is best stated in the language of its author.

"And God said, Let the earth bring forth grass, the herb yielding seed and the fruit-tree yielding fruit after his kind, whose seed is in itself upon the earth; and it was so."

"And God said, Let the waters bring forth abundantly the moving creatures, that hath life, and fowl that may fly above the earth in the open firmament of heaven."

"And God said, Let the earth bring forth the living creatures after his kind. cattle and creeping thing, and beast of the earth after his kind; and it was so."

"And God said, Let us make man in our image, after our likeness. . . . . So God created man in his own image; in the image of God created He him; male and female created He them."

Putting out of view for the moment the Divine authority of this announcement, and looking at it simply as a proposed solution of a scientific question, which is the more probable, which accords best with the *known* facts, which explain most satisfactory the actual phenomena,

the theory of Dr. Darwin, or the theory recorded by Moses?

The last mentioned theory ascribes this inconceivable variety of life, concurring with a unity as wonderful, to the WILL OF ONE PERSONAL INTELLIGENCE, infinite in wisdom to contrive and in power to execute—the Creator of the world and of its inhabitants. Mr. Darwin frequently speaks of creative acts as if they were the labored manipulations of the sculptor, painfully moulding and fashioning the clay for his model. The Mosaic theory gives no countenance to such a representation. It simply describes an act of Intelligent Will endowing the earth and the waters, everywhere, with energy to bring forth innumerable creatures, united by a common type, separated by innumerable differences, each "after its kind." This account is the complete solution of the otherwise insuperable problem of the distribution of living forms.

The Darwinian theory refers all this glorious luxuriance and infinite diversity of life and intelligence, to an *imagined* power of an *imagined* being, without intelligence, without even life, until life was "first breathed" into the "one primordial form," by creative will. For we do not escape from the mystery of *creation* by this wild and gratuitous hypothesis. We only succeed in removing God as far out of sight as possible. We hide ourselves from Him in the darkness of a groundless fiction.

Let us compare these two solutions of a scientific problem—the origin of existing living forms—a little more in detail. The first and second facts out of which the Darwinian theory is framed, may well be considered together. 1. The unity of type in living forms. 2. The gradation by which allied forms approach each other, so that it is difficult or impossible for naturalists to adopt a

system of classification which will clearly distinguish these allied forms.

The Mosaic theory ascribes both these facts to an adequate and reasonable cause, when it refers them to the wisdom and will of that ONE Creative Mind to which Mr. Darwin is compelled to resort as the starting-point of his long-drawn system—the Infinite Being who "first breathed life" into his imagined primordial form. The unity of type, the beautiful gradation, and, what is more, the perfect adaptation in each instance of an inconceivably multiplied series of living beings to the conditions of the life of each, are all sufficiently, fully, and philosophically accounted for, by referring them to the infinite wisdom and power of that One Personal Intelligence. Unity of type comes naturally at least, if not necessarily, from the unity of the Intelligent Source of being. The source being ONE, why should not the tyye be one? This is the most philosophical solution of the problem; for instead of referring these vastly complicated phenomena to a cause purely conjectural, and, even lf known, utterly inadequate, it refers them to a sufficient Cause with which, in a lower degree, we are thoroughly conversant. For the Divine Intelligence producing these results by an act of creative will, differs not in kind, but in degree from the human intelligence which we know to be perpetually operative on this earth producing by its intrinsic energy many forms of beauty, utility, and power, and producing also, as in the unsustained theory before us, many chimeras of fancy, and abortive monsters of conception.

Surely, if science and reason and philosophy are not myths, mere creatures of imagination, it is right and safe to reason from the known to the unknown, from a power which we verify by consciousness and constant observation producing certain effects, to a like power producing

other like effects, however different in degree. But the pseudo-science which we are now examining spurns this axiom of right reason, and contends that it is scientific to refer this inconceivable multitude of forms, contrivances, changes, and adaptations, to a conjectural primordial form, without intelligence, with nothing but life to begin with, choosing, changing, aspiring; evolving itself into these myriad forms of beauty, power, contrivance, design, adaptation. This dictum reverses the rule of logic, and reasons from the *unknown* to the *unknown*, and *then declares that both are proved.* The theory does even worse than this. It assumes as its unknown quantity, from which to reason, a power of which there is the largest conceivable amount of negative evidence to prove that it does not exist. The universal consent of mankind has concurred in the proposition that brute matter has no intrinsic power of choice, or will, or self-evolution, except within the narrow limits of a *law* impressed upon it *ab extra.*

Let it be kept in mind that this monstrous violation of all the laws of right reason does not at all rid us of the transcendent mystery of *creation.* It is compelled to call for that miracle of Infinite power, and then interposes between the stupendous miracle and our minds its thick, black veil, its fancied and monstrous genealogy, by self-evolution, from one, or "at most four or five progenitors"—vegetable or animal germs—of "all the organized beings which have ever lived on this earth." The credulity of such science is below that of the most groveling superstitions.

Contrast now with this gratuitous and unsupported hypothesis the sublime description of the creative act which gives us a reasonable account at once of the unity of type, and of the almost infinite variety and marvelous adaptation of all living forms. "Let the waters

bring forth"—"Let the earth bring forth." There is no account of life being "breathed" into these brute forms. This special act of Divine power was reserved for man created in the image of God. It is simply an act of WILL, by Him who is Almighty—who made the earth and the waters, *endowing them with fecundity*, to bring forth all these things, *after their kind*. No man of science was there to watch the process. We do not know, we never can know, whether each living thing started from a germ as now, and was protected in its growth by the same overruling Power which commanded its existence, or whether the earth and the water brought forth the full-grown "progenitors of all living things." Analogy, if any analogy could meet the case, might incline us to the former supposition. Nor do we know the time in which the mandate was fully obeyed. Nor do we know whether the mandate is not still in productive operation. But here is the FACT—the existence of these infinite varieties of forms, with all their wondrous and elaborate adaptations; and here is the only sufficient, the only possible Cause for the fact—*the Creative Will of an Omnipotent Intelligence*.

Let us look now at the third fact out of which this theory professes to be framed—the variability of certain forms of life under the culture of human skill and intelligence. This one fact is really the starting-point and the sole support of the theory. It is all "evolved" from this "germ." That which gives significance and character to this fact is the commonly supposed immutability and permanence of distinct forms of life. As far as human observation can go back into the records of the earth, distinct living forms have continued unchanged, propagating invariably and only "their kind." Human intelligence, with time, and patience, and minute care, can partially modify this law. The florist can so improve

a single plant as to produce from it many varieties of beautified flowers, *of the same kind.* The horticulturist and the fruit-grower can exert the same beneficent but limited power in their respective departments. A succession of sportsmen, by assiduous care over successive generations, can produce from one pair of pigeons more than a dozen varieties of pigeons. But no care has ever succeeded in producing from a pigeon by this process a canary-bird, or anything but a pigeon. So human intelligence and skill have produced from the wild ox the Durham and other improved breeds of cattle. But no amount of skill and culture will change an ox into a horse, or into any other distinct living form.

The plain, logical conclusion from this class of facts would seem to be—if human intelligence is thus *powerful*, and thus *limited*, a like Intelligence, higher, supreme —Divine Intelligence—has produced all the infinitely modified forms of life which inhabit this world. And this logical and only reasonable conclusion from the premises is in precise accordance with the inspired record of creation, and turns against the Darwinian theory the only class of facts upon which it relies, and upon which the whole fabric is based.

Mr. Darwin's strange and unphilosophical inference, from this *limited* power of human intelligence over brute matter, is, that the brute matter has *in itself* an *unlimited* power of selection and self-evolvement, producing from the lowest germ the highest forms, and the infinite variety of forms of life that fill the world!

As the theory thus violates every principle of reason and logic, it equally contradicts all the facts of natural history. The immutability of specific forms stands out prominently as an unquestionable fact from the beginning of the historic period until now. But the scientific theorist laughs at this seemingly pregnant fact, because he

says the historic period is but as yesterday, and does not furnish sufficient time for natural selection to work in. Only the billions of ages supposed to be revealed to us by geology furnish the required time for all these "wonderful works." When we go to the geological record, we find there precisely the same testimony as in the historic period. The integrity and immutability of specific forms are engraven upon the rock in unmistakable characters. The geological record is too imperfect to be relied on, exclams the enthusiastic votary of this misnamed science. If geology will not furnish us with the *facts* we want, it does gives us *unlimited time*, and our imagination can fill up these bewildering cycles of ages with all the facts we need to establish the sublime proposition of the self-evolving power of the primordial form to improve itself into the inconceivable variety of beauty, and strength, and capacity which constitutes the living world! To this conclusion does the argument come!

But the case is, if possible, still stronger against the theory even than this. We have found the *true* meaning of the facts upon which the Darwinian theory professes to be based, to be a strong confirmation of the Mosaic account, and a positive refutation of the Darwinian hypothesis. We have found geology and science in all of their phases *proving the integrity and immutability of all living forms, both animal and vegetable.* Having thus ascertained the meaning of the facts, we can more easily dispose of the three dependent propositions out of which the theory is framed.

The first, about over production, is partially true, and need not be examined, because the second is the one postulate which Dr. Darwin requires as essential to his system, without which it falls to pieces and is a thing of nought. The postulate is that in the supposed struggle for life between all living forms, the strongest prevails,

and propagates itself, producing a higher organization, which by its superior vigor displaces the previous lower one—its venerable progenitor. This proposition is the acknowledged heart of the system. Is it true? The question ought to be, "Is it so certainly and universally true that it can reasonably be used as the basis of a theory so stupendous in its results, and so unlikely as that which it is employed to support?" But it is not necessary to put the question in this form. Is it true at all? Is it even probably true? is quite sufficient. We venture to affirm that it has not even verisimilitude.

As already stated, and as is frequently contessed by the author of the theory, the only improvements, the only beneficial changes, in the forms of vegetable and animal life of which we know anything, are those produced by human care and culture. As long as that care and culture are continued, the desired improvement is maintained, and acquires a sort of permanence. And unquestionably the same human intelligence, acted upon by a lively interest, will gradually get rid of the original unprofitable stock.

But what does nature do in the premises, when human intelligence and culture are withdrawn? How does the newly discovered faculty—"natural selection"—go to work? Do the gorgeous beauties of the florist continue to improve, when he no longer tends them? Do they even preserve their present form? In every department of vegetable and animal life to which this science of improvement has been applied, the rule is uniform, the law is universal, and is precisely the opposite of the proposition of Dr. Darwin. The tendency of nature is promptly and rapidly to retrogression to the original inferior form, to the lower organization, as soon as human care and culture are withdrawn. Let the gardener permit his vegetables to seed themselves, as it is called, instead of

selecting the earliest and largest ripened fruits for seed, and in a few years the degenerate and stunted product will be hardly fit for food. The plant has returned to its original state, and there the capacity of change is arrested, the form is permanent, until human intelligence again renews the process of improvement.

Leave a stock of Berkshires to nature and to "natural selection." Turn them into the woods to shift for themselves. All but a few worthless specimens will speedily perish. These may survive and propagate, until the original and inferior condition is reached.

Look at the little shaggy ponies of the Western plains of Spanish America, the degraded product of the noble Spanish and Barbary horses introduced into that coun try, and left to "natural selection."

This essential proposition of Dr. Darwin is in point-blank contradiction of *all the facts*, as far as human knowledge goes. All change, all improvement, for any purpose, outside of human care, is simply guess-work, is utterly *unknown*.

Not only is the general proposition thus disproved by the facts, but each minuter point and detail of the dictum is similarly disproved. It is not true that the higher organizations conquer and displace the lower in the struggle of nature. On the contrary, observation points to the reverse of this assertion as more nearly true. The lower orms of life seem to be far more persistent and enduring than the higher. Cold-blooded animals are known to be longer lived than the warm-blooded. The lower forms of life are incomparably more prolific than the higher. As you ascend in the scale, the number of offspring and the capacity of reproduction are diminished. Some of these lower forms will produce in a day more offspring than an equal number of the higher in a century. The higher the organization, the more exposed to disease, the

more liable to destruction. The rule holds good as between different families, and equally as between members of the same family. It even extends to different constitutions, classes, and grades of men. Feeble constitutions are often exempt from active disease. They live on, and are prolific, while the stout and hearty are swept away from around them. The lower grades of human society propagate without reserve, and tend constantly to a deeper degradation, and to the capacity of living on the minimum of subsistence. This well-known fact disposes of many of the sophistries and assumptions of a Darwinian disciple in the July number for 1869, of the North British Review. This writer undertakes to prove the upward progress of society from the lowest savage state, by the present contrast between the lowest and the highest class in London, assuming that the latter started from the present level of the former. Fortunately the evidence is too strong that the present condition of that lowest class is the result of long continued degradation. Two centuries ago, there was no such people in England as the present lowest class in London. The law is universal, that if men are removed from the moral restraints of society and religion—of society quickened by religion—they sink rapidly in character and condition. The history of large cities, and of the border lands of civilization, alike prove this rule. In cities, the increase of wealth and refinement tends constantly to isolate the lower orders from their superiors in these particulars, until the lowest class forms a *caste* as distinct and independent as if they lived in a distant country. When this stage is reached, the degradation becomes more rapid and intense, because the isolation is complete. Social restraint, religious restraint, cease to be operative. Men become animals merely, and give full scope to the animal propensities. The Caste is completely isolated from that

social order which is informed, quickened, and moved by religion, and it becomes little more than a mere herding of brute humanity. Propagation goes on with no moral limit whatever; and in spite of the filth and squalor, the starvation and disease, the population in this lowest stratum increases far more rapidly than in any of the higher grades. Years ago, a distinguished London magistrate of large experience in dealing with this class, testified before a parliamentary committee, as the result of his observation, that if a row of hogsheads were placed along the curb-stones of the London streets, they would soon be occupied as dwellings by a yet lower stratum of human beings, who would propagate their likeness in these homes.

Now, then, which theory is more scientific—most like to science—that which ascribes the wondrously complex phenomena of living forms to a snfficient Cause, analogous to another cause which we see and know to be in constant action, producing analogous effects, or that which ascribes the same phenomena to a purely imaginary faculty, utterly unknown, the fanciful conjecture of an ingenious naturalist?

We have examined with care—we do not profess impartiality in such an issue—but we have examined with care, and *with full allowance of every legitimate demand*, the theory of Dr. Darwin. Instead of finding it science, or scientific, or reasonably plausible, we have found that all of its postulates are not only assumptions unsupported by proof, but that they are directly contradicted by all the known facts in that sphere of nature to which the inquiry belongs. Surely, then, we cannot be reproached as the enemies of science when we reject this theory, and all its cognate systems, on purely scientific grounds, as well as on behalf of reason, religion, logic, and common sense.

J. C.

ART. II.—HOW TO WORK THE MICROSCOPE. By LIONEL S. BEALE, M.D., F.R.S. Fourth edition. London: Harrison. Philadelphia, Pa.: Lindsay & Blakiston. Pp. 368.

At the present day, when the microscope is becoming an instrument of daily necessity to the scientific man, in every avocation of life, it is proper that all works published with a view of lending practical aid to the student of the microscope should be presented, with care, to the attention of all relatively interested. As is well known to many who have given even a superficial attention to this subject, there are many works upon the microscope now before the public which are absolutely injurious and prejudicial to the student, and it is certainly necessary, if not indicating these unworthy works in detail, at least to indicate those publications which are worthy of the fullest confidence and commendation. Among these latter works no one stands higher than the excellent volume of Beale, which has now reached its fourth edition. It is only necessary to call attention to a few of the subjects most ably analyzed by Beale to show the exceeding comprehensiveness and practical character of his most invaluable work.

These subjects are as follows: simple and compound microscopes; the mechanical portion; different kinds of microscopes; new binoculars for higher magnifying powers; illuminating objects; sources of illumination; lamps; examination of surfaces by reflected and transmitted light; drawing and engraving objects; measuring objects and the magnifying power of object glasses; finding the same spot in a specimen; instruments and apparatus required; how to cut thin sections; the best glass slides; cements; vessels for Canada balsam; preservative fluids; cells for preserving specimens: examining the same objects in different media; preparing tissues for

examination; separation of deposits from fluids; making injections; different kinds of injections and method of making them; how to preserve all kinds of tissues, animal and vegetable; the work-table; how to record observations; fallacies to be avoided; advantages of chemical reägents; how to apply tests to minute quantities of matter; taking photographs of microscopic objects; how to print them; *new views of the structure, formation, and growth of tissues; vital power; cells, etc.*

These are but a *very few* of the subjects presented, and, when it is known how ably they (and all other subjects broached) are analyzed, the reader can form some conception of the exceedingly valuable and practical character of this work. Of course, it is beyond the province of the reviewer to notice in detail the mechanical drawings and admirable illustrations introduced into the work; it is equally inadmissible to review, seriatim, the explanations and directions given for the efficient execution of the microscopist's labors. Suffice it to say, that these directions and instructions are of the most elaborate and complete character, and that it is impossible to purchase, at the present day, a work so very complete in its arrangement, and so comprehensive, yet concise, in the information given in regard to every subject presented. It is chiefly those subjects which are italicised in the preceding paragraph that the reviewer is required to examine, and it is to such an examination that this review is chiefly addressed.

Dr. Beale devotes a very material portion of his work to a discussion of the questions of cell-origin, cell-formation, and tissue-growth, and as at the present day, (when Dr. Darwin and Darwinianism are appropriating a large portion of scientific attention,) these subjects discussed by Dr. Beale are of special and absorbing interest, it is believed that the labor given to an examination of this

portion of his work, will be most appropriate and perhaps not unprofitable.

As any novelty on the part of Dr. Beale in his discussion of cell-growth can not be appreciated, without a reasonable familiarity with the recognized teachings on this subject in late years, it will be well to place these teachings briefly before the reader.

It is but little more than thirty years since, that the great Schwann applied, to the animal creation, all of the laws which Schleiden had made known through the medium of his writings on the origin and growth of vegetable cells. Schwann asserted that all animal tissues are actually produced from cells, and that the aggregate of cells and cell-growth constitute, in reality, organized bodies. The origin of these cells he ascribed to the operation of certain laws, in obedience to which, from any organic fluid, there was formed a structureless nest or blastema or cysto-blastema; in this there appeared a point, or nucleus, or nucleolus which constituted the initial point of organization. This nucleus or nucleolus attracted other matter, and this matter, becoming more and more condensed, arranged itself in the form of a membrane; to this membrane, of a spherical shape, he gave the name of cell-wall; and to the little body, as a whole, the name of cell. This mode of cell-formation was by a species of crystallization or aggregation of organic material. These cells increased (1) by division (fissiparation); (2) by budding (gemmation), one cell giving off shoots or buds, forming a series of cells; (3) by the parent cell producing within itself a series of cells (endogenous multiplication). To any or all of these methods, the term proliferation was applied. It will be seen that this "free formation" teaching of Schwann was nothing more nor less than that of "spontaneous generation;" the most

unquestioned materialism, and a denial of all the laws of special creation.

This teaching, so dangerous, was at once accepted and generally promulgated, until 1853, when Mr. Huxley claimed, with great force, that cells are but the *results* of vital organization and not the *cause*. This virtually was to deprive atheism or materialism of its strongest argument; it was to eject it from its stronghold. It was to make cells and cell-growth but a manifestation of a living force elsewhere derived; the *offspring* and not the *author* of life. Mr. Huxley's writings were acknowledged to be masterly, and exercised great influence upon the scientific mind, until the great German, Virchow came to the aid of his countrymen. According to Virchow and his followers, all nature was but the aggregation of cells. Man was but a colony of cells. While bringing masterly arguments to sustain Schwann in this respect, he rejected the materialistic teachings of Schwann, in regard to "the free formation" of cells, or "spontaneous generation." According to Virchow, every cell must spring from a cell, *omnis cellula ê cellula*. This was fully acknowledging the whole claim of original creation, inasmuch as if every cell springs from a cell, the original cell must have been created. Could this teaching have remained unquestioned, science would have contributed her quota to the verification of the Divine lesson, but there was but a brief interim of rest, before Robin and his French adherents denied the truth of the assertions of both Huxley's followers and the advocates of the modern German school. The French school became clamorous advocates of a still different teaching, viz: that the synthesis of proximate principles resulted in "spontaneous generation." It may be said, that this was the original teaching of Schwann, but it differed from it in this respect, that though both admitted the doctrine of "spon-

taneous generation," Schwann regarded organized bodies as a federation of cells, while the modern French school claimed that cells, *if originally present*, disappeared, giving place to tissues. This system was dignified with the appellation of "birth by substitution."

It was at this period of confusion and danger, that Dr. Beale, by his improved microscope and his wonderful efficiency in the use of this instrument, made those beautiful discoveries which have given to the scientific world order, beauty, facts and harmony, in exchange for discrepancy, irregularity, theory and bewildering chaos. Since his patient and efficient study of cell-origin, cell-formation and cell-growth, the whole subject has been simplified; dangerous and illusive theories have been dispelled, and a broad substratum of truth has been established, upon which is to be built the beautiful superstructure of scientific progress and moral harmony.

Beale, as the result of his investigations, discards the classic names of nucleolus, nucleus, cell-contents, cell-wall, etc., etc., and limits the elements of the histogenetic problem to two substances only; these being called by him "germinal matter" and "formed material."

According to Beale's discoveries, there is nowhere to be found that body which Darwin is now making so notorious, the "primordial form;" and if there be not one primordial form, the ingenious superstructure that Dr. Darwin has erected, upon the assumed developments from "one primordial form," becomes "as the baseless fabric of a vision, which vanishes and leaves not a wreck behind."

According to Beale, instead of there being one primordial form, or cell, or body, there is first a clear fluid, he "germinal matter;" next in order, little granules appear; these now coalesce; then growing larger, they ne minute masses showing molecular motion. Next,

little currents are seen, under the microscope, moving *to and from the centre of eaeh little mass*, and there is established centrifugal accretion or accretion from centre to circumference. In this manner, is formed the elementary bodies termed cells, which, in their aggregate accumulation, constitute the bodies of the animal and vegetable world. Beale has designated these little vital currents by a somewhat poetic yet appropriate and beautiful name; he terms them "*the first dawn of vitality.*"

Some pretend to see, in this teaching, an insidious form of materialism. They charge that it is an admission of the truth of the old dogma "spontaneous generation." There is no reason or justice, however, in these charges, for Beale distinctly states, that "germinal matter must spring from pre-existing germinal matter," and then be perpetuated by the agencies of vital nutrition. Life will not, he says, be manifested in an *inorganic* fluid; this grand phenomenon is only made apparent where the fluid, "the germinal matter" *is organic; where life already exists; where the laws of creation are already and fully in existence.* These discoveries are the deathblow to that monstrous myth "spontaneous generation," with all of the hideous teachings which have sprung from the atheistical mind of the monomaniacal materialist.

Where Dr. Beale limits himself to the enunciation of observed facts, he is profoundly instructive and interesting, but when he passes from the analysis of physical manifestations to the origin and essence of life and of vital phenomena, he becomes visionary, ambiguous and valueless. Like all men, when he attempts to break down the barrier which divides and separates the physical from the physiological, when not content with examining the evidences of vitality, he seeks to raise the veil which providentially guards and conceals it, he becomes impotent. All feel that the strong man b[illegible] be-

come weak, and are ready to exclaim, with the inspired tent-maker, "the wisdom of man is foolishness."

If the modern microscope had only annihilated the dangerous absurdities of "spontaneous generation," there would have been ample cause for gratitude, but it has done far more than this; it has annihilated that equally specious and dangerous absurdity which, under the appellation of Darwinianism, is making fools of the foolish, and destroying the wisdom of many of the wise. Every one knows that, according to the doctrine of Darwinianism or "natural selection," it is claimed, that originally there were but a few primordial forms; that by development or by a species of mythical "natural selection" (whereby the weak of all created perished and the strong were perpetuated, and improved) these few "primordial forms" became elevated in the scale of animated nature; and from these primitive, simple, semi-vitalized germs, there has been developed all that is grand and sublime, and wonderful in animated creation. Now the modern microscope has dealt this monster a blow upon the sconce, from which it can never recover. By its revelations, it is now known, that all vegetable cells have double walls and all animal cells only one wall. It may be said, that in determining any specimens, when examined on such a basis, that the decision is scientifically *a petitio principii;* but this is far from being the case; for there is this interesting proof to sustain the accuracy and truth of the alleged discovery in regard to the difference in the structure of vegetable and animal cells, viz: if a specimen with double cell walls be afforded an organic nutriment, it speedily perishes; give it inorganic nourishment, and, in virtue of its vegetable organization, it responds to the test and vigorously develops; conversely, give, to any single cell-walled organism, inorganic food, and it perishes, while if

organic material be afforded, it quickly assimilates such food, and demonstrates the animal character of its organization. Here is then a broad, impassable gulf, separating two whole kingdoms of organized nature; showing that by no possibility could any "primordial forms" have crossed it successfully. If, with the vigilant protection of man, they can not be piloted successfully across this gulf, how hopeless and irremediable must have been the shipwreck, when these "primordial forms," in virtue of a mythical protection, foolishly termed "natural selection," attempted alone the transit of this impassable gulf?

One can not examine these wonderful revelations of the modern microscope, without appreciating the gigantic fallacy of the gigantic mind of Buckle. All who have read his History of Civilization must have been staggered at the folly of his infidel assertion, that "intellectual truths are progressive, while moral and religious truths are stationary." Can there be a greater fallacy? All created nature, as a universal missionary, declares to man the greatness and wisdom of the Creator. With all reverence be it written, the chief difference in such language and that of the Son of the great Creator is, that while He spoke in a language known and read of men, the language of the forest and of the flower, of the mountain and the meadow must be interpreted, that its wonders may be known, and that its eloquence may be gratefully felt or deeply appreciated. Surely, when the microscope unveils the grand mysteries of nature, where it vitalizes her beautiful language, whose power is irresistible, that man must be imbruted, who is not morally enlightened and instructed. Is it not then a gigantic fallacy to assert, that the progress of *intellectual truth* is constant, that discoveries and improvements in physical and other

sciences are constant, unless it be admitted that the progress of *moral and religious truth is logically and consequently constant also?*

Where the modern microscope is being consecutively improved, revealing the previously inscrutable mysteries and beauties of the animal and vegetable world; giving thus irresistible language to these recently silent witnesses, and making them eloquent missionaries in behalf of the wonderful wisdom, power, and sublimity of the Great Creator; transforming skeptics into converts, and converts into enthusiastic advocates of moral and religious truth, what stupendous folly is it in one even so wise as Buckle to assert, that intellectual truth, born of intellectual research and discovery, can progress, unless there be an irresistible progress also in the growth of moral and religious truth!!

The microscope thus teaches, that as *intellectual truth progresses, its revelations compel progress in moral and religious truth also.*

Improvements in the microscope have refuted the infidel sophistries of Buckle, and Schwann, and Robin, and Darwin, and others, and will aid in subverting all materialistic doctrines, which, as they arise, confound the foolish and often at first bewilder the wise. Whenever theology has used well the instruments of modern science, she has found that this science is her great support in coping with infidelity; that with it she is always able to destroy the specious sophistries of a sciolistic or atheistic philosophy. Such attacks should be welcomed and not shunned; they give strength; for they are always the precursors of victory, and among the grandest of these victories are to be numbered those achieved by Beale, when teaching all How to Work the Microscope.

E. S. G.

I. Aiken, or Climatic Cure. By Drs. Amory Coffin and W. H. Geddings. Charleston, S. C. Walker, Evans & Cogswell. 1869.

II. Three Cases of Lead Palsy from the Use of a Cosmetic called Laird's Bloom of Youth. By Dr. Lewis A. Sayre. New York. From Transactions of Am. Med. Association. 1869.

III. Cardiac Murmurs. By Dr. J. R. Leaming, New York.

IV. The Pathology of Bright's Disease. By Dr. W. B. Lewis. New York. Turner & Mignard. 1869.

V. The Dublin Hospitals—Their Grants and Governing Bodies. By E. D. Mapother, M.D. Dublin. 1869.

VI. Vesico-Vaginal Fistule—Treatment by the Button Suture. By N. Bozeman, M.D. New York. 1869.

I. This pamphlet will be read with very general interest by thousands. It gives a faithful and creditable account of Aiken, South Carolina. This locality, as is well known, is yearly becoming of greater interest to all who are unfortunate enough to be suffering from phthisis, as well as to those who are called upon to treat this interesting and important disease. In the description given, the reader is enabled to form an accurate conception of the topography, climate, history, advantages and surroundings of Aiken, So. Ca. The reviewer can vouch for the general accuracy of the work, as he was required, at one period during the late war, under orders from the War Department of the Confederate Government, to examine this locality, with the view of deciding upon its fitness as a site for hospitals for consumptive soldiers. From his personal observation and from the facts given in this pamphlet, it may be safely said, that there is no place in the United States which offers greater cli-

matic advantages to the consumptive. All interested will do well to purchase this work from its publishers.

II. In this extract, from the transactions of the American Medical Association, Dr. Sayre presents three cases of aggravated lead palsy, produced from the use of a popular cosmetic of a very dangerous character. The cases were all successfully treated. The description of the symptoms, course of the trouble, treatment and results is brief, clear and interesting. Large doses of the iodide of potassium, with electricity, was the chief agent used for the relief of these cases.

III. This is a most able review of the most interesting features of cardiac pathology. It is an interesting and instructive monograph, and those who are specially interested in the study of cardiac auscultation will do well to obtain a copy of it from its author.

IV. The illustrations in this pamphlet are excellent. The author endeavors to systematize the confused pathology of Bright's Disease, but it can not be said, that he is in any respect more successful than the hundreds who have attempted the same labor and who have signally failed. His failure, however, is highly honorable, for he manifests an entire familiarity with his subject, and has only failed in a field, wherein no one has entirely succeeded. Those who have attempted honestly to explore the confused and intricate field of renal pathology can have a true sympathy in the courage of any one who boldly endeavors to play the part of a guide, and while this guide may entirely fail in successfully piloting the pathological traveler in most interesting explorations, all must admire his hardihood, zeal and ambition. Dr. Lewis is evidently a careful and earnest student, but clinical facts, however numerous, are yet insufficient to enable any one to successfully systematize the confused, intricate and protean pathology of Bright's Disease.

V. This is a most valuable and able paper on a subject whose interest is not confined to Ireland or its hospitals. The pamphlet contains innumerable facts of interest and importance. Among many other facts of equal significance, tending to show the increasing success and merit of the Dublin School is this, that, from having but a few years since only one hundred students, it has now over one thousand. The professional harmony, decency and elevated principle existing there seem, to the American reader, a terrible commentary upon the unfortunate and unhappy condition existing in a great portion of the medical profession of his own country. This involuntary sting is, however, not without its antidote, for it teaches the lesson, that it is possible for medical brethren to dwell together in unity; that mutual forbearance, mutual respect, trust and confidence not only bring the rewards of noble and disinterested friendships, but that harmonious coöperation secures exalted professional and collegiate success for that city, wherein medical men are wise enough and true enough to work together for the common good of their profession and of humanity.

VI. In this paper, Dr. Bozeman describes the mode of operating in five consecutive cases of vesico-vaginal fistule, each possessing seven openings. The claims of Dr. Bozeman for the button suture are so well known and the details of the operation so familiar that it is unnecessary to present them. Each of the cases described were successfully treated. E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

Chloral.—[Translated and abridged from l'Union Médicale and the Journal de Médicine et de Chirurgie Pratiques.] The name chloral, recently from Berlin as of a new discovery, has been longer known than many physicians suppose. Chloral was discovered by Liebig in 1832, and subsequently studied by Dumas. It is the result of the action of anhydrated chlorous gas upon ethylic alcohol, and appears in the form of an oily, thick, colorless, volatile liquid; having the specific gravity of 1.502 at 202° Fahr. Its vapors have a pungent odor. In contact with water it develops heat, and forms a white crystaline substance, which is the *hydrate of chloral*, now offered as a new anæsthetic.

The discovery of its hypnotic properties was in this wise: M. Liebreich, being aware that if soda or caustic potash be added to an aqueous solution of the hydrate of chloral, the hydrate is decomposed, chloroform set free, and a formate of soda or potash results, was led to try the physiological action of this substance on animals, anticipating that the blood would cause the same decomposition as the alkalies, and that the chloroform thus slowly liberated would produce a prolonged anæsthesia. His anticipations were realised in the experiments.

Animals submitted to the action of chloral were speedily put to sleep, without the previous period of excitation produced by inhalation of chloroform. Five decigrammes (about 8 grs.) of chloral, equal to 29 centigrammes (about 3½ grs.) of chloroform, produced nine hours sleep in a rabbit. In another, 1.35 grammes caused five hours sleep; and 3.50 grammes (54 grs.) given to a melancholic subject, induced sleep for six hours, with no ill results. In short, as given by Langenbeck, it proved more efficacious than opium or morphine.

Thus much had been ascertained when Dr. Richardson repeated his experiments to the British Association for the Advancement of Science. He used a concentrated solution of 30 grains of chloral to 40 grains of water. In contact with fresh blood, chloroform was disengaged,

as shown by its odor, very different from that of chloral, which also could be recognised in the blood on the distillation of the latter. The principal point was thus established.

His experiments upon pigeons, rabbits and frogs, in general confirmed those of Liebriech, but, unlike the latter's, were not wholly unattended by mishaps, such as vomiting in pigeons, and some fatal results in frogs.

Thus it was proved that hydrate of chloral is capable of producing deep sleep, unpreceded by a period of excitation; but, while this sleep may be prolonged, the period of anæsthesia is relatively short. (From an article by Dr. P. Garnier.)

In the same number of l'Union, M. Demarquay communicates to the Academy of Sciences, a continuation of his experiments, this time on the human subject only. Twenty times, he says, he has administered chloral in sirup of tolu, in the proportion of 15 grains to a tablespoonful of the sirup. This mixture was not disagreeable to take, but it left a sensation of acidity in the throat. It was borne well, and in other respects caused no ill effects whatever. The dose ranged from 15 to 75 grains.

Of the twenty experiments, six failed to produce sleep —all these failures being in men. The patient who took 75 grains was also a man. He was thirty-five years of age, and was about to have his knee cauterized. A light sleep of three-quarters of an hour was all that could be obtained.

On the other hand, a woman enfeebled by organic uterine disease, slept with only a single interruption, all an afternoon, a quiet sleep—after taking only 15 grains of chloral.

In general, then, weak and enfeebled persons were much the more readily affected by the agent; and the duration of its action, *i. e.* length of sleep, was in direct proportion to their weakness.

In fourteen cases (twelve women and two men) where sleep was complete, it came on in fifteen to thirty minutes after taking the drug.

The sleep thus produced was light and in no way resembled that of chloroform. The least noise woke the patients, but in a moment they fell asleep again.

The slightest prick or pressure caused groaning, and an immediate withdrawal of the part touched. It can hardly be affirmed that the skin became unnaturally sen-

sitive, but its usual sensibility was certainly preserved; however sound the sleep, consequently it is impossible to utilize this sleep in surgical operations. Nevertheless I have derived great benefit from administering the sirup of chloral to a woman on whom I had performed a severe operation. Immediately after the dressing the patient took sixty grains of chloral and at once fell into a sleep which lasted all the afternoon.

But if the sleep was calm and tranquil with many patients, there were others in whom it was disturbed and troubled by delusions and hallucinations. This was especially the case in women affected with severe and painful organic diseases of the uterus, and accustomed to take large doses of opium. In such cases the sleep was sometimes long, troubled and full of moanings, and on waking the poor patients called earnestly for their usual subcutaneous injection of morphine.

This circumstance proves that if chloral is hypnotic, it is in no sense anæsthetic.

It must be added that the patients on the day following seemed to have a consciousness of the disturbance of the previous evening.

When thirty or forty grains of chloral are given to an enfeebled patient, sleep may be kept up for a long time, thus making it quite important to administer additional food in advance.

There was a striking circumstance in one of the six failures to produce sleep. A young woman, of 23 years, enfeebled by urine losses, took thirty grains of chloral to relieve intense headache. Instead of sleep it produced lively excitement. She was in a manner intoxicated all the day; she felt strong, and declared that she had a good appetite. Her sleeplessness was prolonged into the next day and gave place to great fatigue.

As the dose given was relatively small, no serious derangements of functions were met with in these experiments. The respiration varied but little; so also the pulse, only a few beats. The temperature fell some tenths of a degree at the beginning of the experiment, but soon rose again. In several of the cases the urine appeared to be increased; and some of the patients passed urine involuntarily in bed.

At present we can only say that,

1. Chloral has a well marked hypnotic action, especially in feeble and debilitated persons.

2. The duration of this action is in direct proportion to the feebleness.

3. The sleep induced is generally calm, being disturbed only in those under acute suffering. This would lead to its exhibition where sleep especially and muscular relaxation were chiefly desired.

4. The agent may be given in sufficiently large doses, since no accident followed after the administration of 15 to 75 grains.

In the November number of the Journal de Médicine et de Chirurgie Pratiques, just received, it is stated as follows:

Contrary to the conclusions of M. Demarquay, other experimenters affirm that they have found chloral an anæsthetic also; declaring that while it increases sensibility in small doses, it diminishes this gradually, as the dose is increased, even to complete anæsthesia. The editor of the Journal, however, persists that he and others have found the agent an hypnotic only, or a sedative merely to the nervous system.

At the Children's Hospital, M. Giraldes has given chloral in doses of 2 grammes (30 grains) in ten grammes of sugar-water, to children much excited after surgical operations. It produced many hours of sound sleep, unbroken by noises, twitchings, and shakings, while reflex movements could be produced by pinching.

M. Worms, physician to the Rothschild Hospital, administered chloral, dissolved in ten parts of water and orange sirup, to nineteen patients (ten men and nine women). It was given as a sedative, and his observations go to prove that in doses of from fifteen to fifty grains the agent is harmless, and is useful as an hypnotic.

The property chloral has, says M. Worms, of producing almost instantaneous sleep, is not possessed by any other agent administered by the stomach. Moreover, it has also a superiority to opium and its preparations, in that its sleep is not followed by torpor or discomfort.

In England, Mr. Spencer Wells has used chloral to quiet nervous excitement following severe operations, and also with success in some neuralgic complaints. Dr. Ogle declares a marked benefit derived from doses of 25 to 30 centigrammes (4 to 5 grains); especially in delirium tremens, a nervous trouble to which applies so fitly the aphorism of Hippocrates: "*Ubi somnus delirium sedat bonum.*"

M. Demarquay, returning from his investigations at Berlin, reaffirms to us the purely hypnotic properties of chloral, and adds that he has obtained best results in delirium tremens from doses of three grammes (45 grains) of chloral.

According to M. Bouchut (in a note to the Academy of Sciences) chloral is a powerful sedative to the motor and sensitive nervous systems.

It ought not to be given in a dose greater than 75 grains (5 grammes) to an adult, or from 15 to 30 grains (1 to 2 grammes) to children. Subcutaneous injections of chloral are dangerous.

Its action is that of chloroform, but less speedy and longer continued. In some cases its effects resemble alcoholic intoxication, but without disgust. The sleep it produces is rarely accompanied by hyperæsthesia, but a great majority of cases are marked by decided anæsthesia. This occurs in proportion to the dose employed—30 to 75 grains (2 to 5 grammes), according to age, being sufficient to permit the application of Vienna paste and the extraction of teeth without pain.

Therapeutically, chloral quiets the violent pains of gout, of nephritic colic, or of dental caries. In a word, it is the first of anæsthetics given by the stomach.

Finally, it is the most prompt and efficacious remedy in intense chorea, relieving speedily the violent agitation which threatens to destroy life.—*Archives Générales des Medicine, December*, 1869. B. E. C.

[Note.—These excellent and timely translations have just been received. They were made and sent by that accomplished physician and author Dr. B. F. Cotting, of Boston, Mass., who will keep the readers of this Journal fully informed in regard to all that may be reliably published on this interesting subject.—Ed.]

Dr. Andrews, in imitation of Dr. Lister, made ligatures of tendon from the fore-leg of an ox, and tied a varicocele with them. The operation was successful. The ligatures produced no trouble, and were supposed to be undergoing absorption.—[*Med. and Surg. Gaz.*

A Chicago physician, much devoted to real estate speculations, and rather absent-minded, replied to the question of a lady how his prescription was to be taken:

"One-quarter down; balanee in one, two and three years."

Treatment of dandruff.—Hardy.—Nitric acid 12 minims; distilled water three ounces. Mix and apply once a day.—*L'Union Medicale.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Dr. R. R. Good, the Paris Correspondent of this Journal.—The Gazette Hebdomadaire contains, over the signature of A. Hénocque, a somewhat lengthy review of the able thesis presented to the faculty of Paris, by Dr. R. R. Good, formerly of Kentucky, on the subject of "resections of the coxo-femoral articulation for caries." He says: 'When the vast amount of statistics, published in all languages on this subject is considered, the task seems an easy one. But the danger of choosing indiscriminately from unreliable information, is well known; and Dr. Good's essay possesses the signal merit of containing only such observations as have been verified by the author himself." One hundred and twelve cases of resection are presented, of which fifty-two recovered, making the percentage as follows: recovery 45.53, death 58.67. The results show but little difference due to sex; thus, 56.83 per cent. of the men recovered, and of the women 46.67; of the whole number, 34 were performed in Germany, 82 in England, 29 in America, 14 in France, and only 3 in Russia. The results were very different in the different countries; his tables show a per cent. of mortality as follows: France 85.71, Germany 64.71, Russia 66.67, America 44.83, England 34.37. This review commends highly the patience and industry displayed by Dr. G. in his researches, and concludes as follows: "On the whole, the work of Dr. G., thanks to his extended acquaintance with the modern languages, his intimacy with the operators themselves, and to his rigorous method, will remain one of the most valuable papers upon the difficult question of articular resections."

French Prize.—Of the four prize medals awarded by the faculty of Paris, this year, the one in surgery was

given to a former citizen of Louisville, Ky., Dr. R. R. Good, now a resident practitioner in the French capital, for his thesis on "diseases of the coxo-femoral articulation." This triumph is a matter of pride and just satisfaction to the friends of this young surgeon, especially when it is known that there were over one hundred competitors for this prize, among whom were many "four-year" *internes*. No American has ever before been so fortunate.

Louisville Obstetrical Society.—At its third annual meeting, held November 23, 1869, the Louisville Obstetrical Society elected, as officers for the ensuing year, the following gentlemen: President, Dr. W. H. Newman; Vice President, Dr. J. A. Octerlony; Recording Secretary, S. H. Garvin; Corresponding Secretary. Dr. S. H. Hornor; Treasurer, Dr. S. Brandeis; Librarian and Curator, Dr. Wm. Forrester. The retiring president, Dr. G. W. Ronald, on leaving the chair, addressed the Society in a few happy and appropriate remarks. The following named distinguished gentlemen have been elected honorary members—Profs. Henry Miller, of Louisville; T. Gaillard Thomas and Jacobi, of New York; Pajit, of Paris, Scanzoni, of Wurzburg; Ed. Martin, of Berlin; Seifert, of Prague; Carl Braun, of Vienna; Veit, of Bartask; Crede, of Leipsic; Sir James Y. Simpson, of Edinburgh, and Dr. Washington L. Altee, of Philadelphia.

The genuine good feeling and fellowship, the punctuality of the members' attendance, and the active interest manifested on their part in making and collecting scientific contributions, testify to the vigor and enterprise characterizing this flourishing society.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

A Plea for Louisville.—In the first number of the Journal of the Gynæcological Society of Boston, the credit is claimed for New England of having established, in Boston, the first active association of gynæcologists in America. Whilst there is no desire to detract any

thing from the just claims of the medical profession of New England to merit and distinction, it is unquestionably true that Louisville, Ky., is justly entitled to the honor and distinction of having first established a society (of physicians) devoting itself to the science and art of gynæcology.

The society of Boston seems to have been established on the 22d of January, 1869; more than two years after a few medical men, viz: Drs. Newman, Brandeis, Ronald, Octerlony, Goodman and Forrester, met in this city and organized themselves into a society, whose object was to give especial attention to the new science of the medical and surgical diseases of women, as well as to midwifery. In November, 1866, this society was organized and with the view (as stated) of giving prominence to the new science and of causing its due recognition by others. It now numbers seventeen active members, and is one of the flourishing societies among the medical men of this city.

It may be true, as stated in that excellent Journal, that Dr. H. R. Storer, of Boston, was the first physician in this country to deliver a complete collegiate course of *sixty* lectures upon the diseases of women, as distinct from midwifery, if the remarks be intended to apply merely to the number of lectures delivered; but it is a fact that Dr. Newman, of this city, in the Fall of 1865, delivered a course of nine lectures on the surgical diseases of Women, to a class of students then attending the medical lectures of the University of Louisville. This was probably more than six months before Dr. Storer's lecture was delivered. So that, in any view that may be taken of the subject, the honor belongs to the medical profession of Louisville of having been in advance of all others in this country, so far as is known, in developing the gynæcic science and art as a separate and

distinct branch of medical learning. There is no place in which more zeal and careful attention are given to that new and interesting branch of science than Louisville.

The Louisville Board of Health.—Physicians certainly can not censure the public for manifesting a want of appreciation of medical science, and of medical men, when they fail to furnish the public a proper example.

The Health Officer of this city having resigned his office, during the month of December the Board of Health, on a few minutes' notice, elected to that position a physician who graduated in medicine only two years since. Granting that this gentleman may be all that his friends believe him to be, viz (what is popularly termed) "a promising young physician," it may justly be asked, if any one without the experience, culture, wisdom and judgment which can only come with personal and professional maturity, is a proper person to be elected as the Health Officer of a city of 160,000 inhabitants. The Board of Health consists almost exclusively of physicians, and it is beyond credence that those who ought to have, and perhaps do have, a proper appreciation of the medical qualifications absolutely necessary in any one aspiring to the position of Health Officer, could elect one who, from causes beyond his control, can not be fitted for his position. In this city, which has confessedly been long deprived of all the advantages of proper drainage and an enlightened system of civil engineering, it is particularly necessary that the Health Officer should combine the very highest qualifications attainable. There were no means adopted to secure such an officer, by properly advising the public of the vacancy existing, but the present incumbent was precipitately elected. Such a course is certainly highly censurable. It is trifling with

the health of the citizens; with their property; with the business interests of the city, and with the welfare of the medical profession.

That there were no other candidates is very natural. The board so acted that the public was not advised of the existence of the vvaancy until the election had been completed!

In these days of extensive, if not general corruption, sycophancy and venal eulogy on the part of the press, it may seem "old fashioned," that the truth, that fair and honest criticism should be published, but the press which adopts any other course is unworthy of confidence or support, and sooner or later must receive the overwhelming condemnation of the public. The Board of Health is composed of those who are voluntarily the servants of the people, and they will be held publicly responsible for a faithful discharge of their duty, This can be done in a spirit of fairness, justice and courtesy, and it is in this spirit that these lines are written.

The Eastern Lunatic Asylum, Lexington, Ky.—Dr. W. S. Chipley, superintendent of this Institution, has resigned his position. The Board of Trustees *immediately* elected Dr. John Whitney, ofLexington, Ky., to fill the vacancy. While the result may not have been different, it certainly would have been more satisfactory to the public if the Board of Trustees had advertised the fact of a vacancy having occurred, and had invited applicants to present their testimonials; securing thus, beyond peradventure, the best physician and officer possible, for so important an Institution. Dr. Whiting is regarded, by those acquainted with him, as a successful and competent physician, and is believed to be personally and professionally able to discharge the responsible duties now devolving upon him.

Editorial Brevities.—Many of the most distinguished physicians, of Philadelphia, are taking efficient means for securing extensive and generally signed petitions to Congress, with the hope of obtaining a modification of the laws in regard to the rank of medical officers in the Navy. A long printed circular has been received, asking that medical men everywhere prepare and send petitions for the purpose indicated. All such papers may be addressed to any of the following physicians of Philadelphia, Pa., Drs. E. Hartshorne, Joseph Carson, J. D. Gross, R. E. Rogers, T. A. Meigs, J. A. Packard, and W. B. Atkinson. Each memorial should be in duplicate, one for the House of Representatives and one for the Senate.——The case of Dr. Paul Schœppe, of Carlise, Pa., is exciting much interest. He was tried and condemned for poisoning a patient and forging a will, by the terms of which he was to inherit much property. The medical evidence adduced was certainly entirely inefficient and very injudicious and an execution on such testimony would be judicial murder. Many petitions are being prepared in his behalf, and all physicians who desire to aid one of their own profession in his great trouble and danger would do well to prepare petitions. All papers of this description may be sent to the Governor of Pennsylvania.——The Louisville Marine Hospital has recently received additions which will double its capacity and render it one of the most imposing and most valuable hospitals in the West. At the opening exercise, Prof. A. B. Cook, of this city, delivered a surgical clinical lecture, and Prof. D. Yandell entertained the class with some pleasing reminiscences connected with the hospital and its medical staff in past years. The first clinic ever delivered in the hospital was by Dr. J. P. Harrison, and not, as Dr. Yandell stated, by Dr. C. Caldwell. The tributes to Professors Eve, Gross,

Flint, Caldwell and others, were just and well merited. This hospital, open equally to the students of all colleges in this city, is now in successful and active operation. ——In addition to the manny advantages offered to the supporters of this Journal, the editor takes pleasure in stating that he will commence in the February issue publishing the invaluable clinical lectures delivered by S. Jaccoud, Assistant Professor, of the Faculty of Medcine at the Hospital de la Charité, Paris. These lectures are to be translated by Dr. J. D. Jackson, of Danville, Ky., one of the most accomplished physicians of this State, distinguished not only for his erudition and practical skill, but for his enthusiastic devotion to the purity, honor and progress of a profession which he dignifies and adorns. These lectures will be fully and expensively illustrated by wood-cuts and chromo-lithrographs. It is believed that they are both in material and method unsurpassed by any papers in medical literature.—— The Chicago Medical Journal has recently passed into new hands, viz: the efficient and liberal publishing house of W. B. Keen & Cooke, Chicago. The Journal is still editorially in charge of Prof. J. Adams Allen and Walter Hay, M. D., who are editing it with the ability and judgment so generally acknowledged. The Chicago Journal has been wonderfully improved by this new arrangement and is as attractive exteriorly now, as interiorly it has always been.——It is proper again to inform the public that the "commutation system" with other Journals, has been discontinued. Such favors can not be accepted from editors or publishers, unless they are fully reciprocated, and this Journal has been so much enlarged, that it is impossible, without loss, to send it to any one, for less than the price($5.00) of subscription.——It is but justice to subscribers that their attention should be called to the Scientific American, published by Munn & Co., of

New York. It is a thoroughly scientific work. It is most liberally and beautifully illustrated. It has been steadily increasing in value for more than twenty years. It contains fully 4000 large pages a year. It is furnished at the exceedingly low price of $3.00 per annum. No one subscribing for this paper will ever be disappointed. It is worthy of munificent support.——In the valuable experiments made by Prof. L. S. Joynes, of Richmond, Va., in connection with the action of different preparations of pepsine it was found that the "American Pepsine" was exceedingly valuable and reliable. The request has been made, that physicians should be informed of the fact, that this preparation of pepsine is made by Dr. T. T. Hawley, Greenpoint, Brooklyn.——The editor of this Journal has been always been unable to supply the demand made for its "back" numbers. To meet this want he had during the year 1869, a sufficient number of copies published every month. There are now 25 complete sets of the Journal, for 1869, which have been preserved and they can be purchased for the moderate sum of $3.00 for each complete set. More information on this subject can be obtained by consulting the third cover page of this number.——The prospectus of the Baltimore Medical Journal has been received. This Journal is to be published monthly. Its editors are Drs. E. L. Howard and T. L. Latimer. These gentlemen were well known to the editor during the late war, when they were generally regarded as studious, ambitious, and efficient young surgeons. They have the best wishes of their friends in their new enterprise, and they will doubtless manage their Journal with energy and fidelity.—— A new medical journal, "The Western Practitioner," is to be published in this city. It is to appear on the first of January. Its editors are Professor Theophilus Parvin, the recent editor of "The Western

Journal of Medicine," and Professor David Yandell, of this city. Prof. Parvin edited the Western Journal of Medicine at Indianapolis, Indiana, with success, and is as remarkable for his extreme modesty, as he is for his unquestioned merit. Prof. Yandell is so well known to the medical men of the late Confederate army that he needs no introduction to those who duly appreciate his claims upon their support. To physicians elsewhere he is well known. The Journal will be noticed more fully when it appears———There seems to have been some difference of opinion as to the advertising of specialists in Europe. The editor has had placed in his hands copies of the prescription papers of Mr. Critchett, of London; Liebreich, of Berlin; Fauvel, Wecker, and Desmarres, of Paris. It is well known that these are distinguished ophthalmic specialists. A copy of the prescription paper of Dr. Morell Mackenzie has also been furnished. *All of these prescription papers bear conspicuously the name, residence and specialty of those who give them, and these papers are disseminated "broadcast" over the cities in which these gentlemen respectively practice.* Could the advertising of specialists be more complete, efficient, and unquestionable?———The Review of Darwinianism, as published in this Journal, is written by one of the most distinguished theologians in Kentucky. It will be read with interest and profit by all.———Attention is called to the advertisement of Dr. Williams, of Richmond, Va. This gentlemen is intimately known to the editor and his statements are entitled to the highest respect and consideration. Those desiring to purchase the property advertised by him may rely upon being informed of all facts necessary for their protection, safety and advantage.———The advertisement of the University of Maryland will attract and deserves careful attention.———In the last number of this Journal atten-

tion was directed to a pamphlet on Enuresis, ably prepared by Dr. F. G. Snelling, of New York. While in the title he was awarded the credit of authorship, in the text of the review this was given to his publishers. This correction is made with pleasure. A few of these excellent monographs have been just received, and any one wishing a copy can be gratuitously supplied.

NOTICES.

NOTICE—MR. CHARLES BELL GIBSON (a brother-in-law of the editor), is now the General Business Agent of this Journal. As such he has full power to make contracts and sign receipts. Mr. W. P. Holloway, the former active and energetic agent, has been compelled from bad health to withdraw.

MEDICAL COLLEGE CONVENTION.—*To the Trustees and Faculties of the Medical Colleges of the United States*: The undersigned committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati in May, 1866, respectfully and earnestly invite you to send delegates to be held in the city of Washington on the Friday preceding the first Tuesday in May, 1870, for the purpose of considering all subjects connected with Medical College education, and procuring the coöperation of the schools in carrying out a uniform system of medical instruction. It is very desirable that every regular Medical College in this country should be represented in the Convention.

CHICAGO, ILL., Dec. 22d, 1869.

N. S. DAVIS,
S. D. GROSS,
GEO C. BLACKMORE,
F. DONALDSON. } Committee.

FOR SALE.—The manufacturers have placed in the hands of the editor several instruments for sale. Messrs. Codman & Shurtleff, of Boston, have sent several complete and perfect steam atomizers. Dr. Read, of Boston, has also sent a few of his atomizers that are both excellent and offered for sale at a very low price.

The attention of all interested is called to this notice and an earnest coöperation is respectfully invited.—ED.

Messrs. Otto & Reynders, of New York, have sent very complete hypodermic syringes, combining all of the most recent and approved improvements.

Dr. Babcock has sent specimens of his silver uterine supporters. These supporters have been used by medical gentlemen well known to the editor and they have given entire satisfaction.

NOTE.—All of the instruments, from the manufacturers mentioned,

will be delivered in this city at the lowest price charged for them at the factories.

For Sale.—Several complete copies of the Revised Code of Ethics of the American Medical Association.

BOOKS AND JOURNALS RECEIVED.

A Handy Book of Ophthalmic Surgery. By J. Z. Laurence, F.R.C.S., M.B., University, London; assisted by R. C. Moon, M.D. Philadelphia—H. C. Lea. 1869. From the publisher.

The Pathology and Treatment of Strictures of the Urethra and Urinary Fistulæ. By Sir Henry Thompson, F.R.C.S., London. H. C. Lea, Philadelphia. 1869. From the publisher.

The Physical Life of Woman. By Geo. H. Napheys, A.M., M.D. Philadelphia. Geo. Maclean. From the publisher.

Introductory Address. By Prof. Wm. H. Van Buren, M.D., at Bellevue Hospital Medical College, New York. 1869.

Aiken; or, Climatic Cure. By Drs. Amory Coffin and W. H. Geddings. Charleston, S. C. 1869. From the author.

Cataract Extraction. By H. Knapp, M.D. New York. Wm. Wood & Co. 1869.

First Annual Announcement of the Kansas City College of Physicians and Surgeons, Mo. 1869-70.

Uterine Catarrh. By Joseph Kammerer, M.D. New York. 1869. W. A. Townsend & Co.

Introductory Lecture. By Paul F. Eve. At the Missouri Medical College, October, 1869. From the author.

Proceedings of the South Carolina Medical Association; Charleston May, 1869.

Hartford Insurance Company.

Vest Pocket Lexicon. By Jabez Jenkins. Philadelphia: J. B. Lippincott & Co. 1868. From the publishers.

The Physician's Hand-Book for 1870. By Drs. W. & A. D. Elmer. W. A. Townsend & Adams. 1870. New York. From the publishers.

Lecon D'ouverture Du Cours Die Therapeutique. M. Le Prof. Gubler.

The Kansas City College of Physicians and Surgeons.

Report of New York Orthapædic Dispensary.

Nomenclature of Diseases. By a Committee from the Royal College of Physicians of London. 1869.

Report of the Tennessee Hospital for the Insane. 1869.

Annual Report of the Surg. Gen. U. S. A. 1869.

Report of the Mass. Eye and Ear Infirmary. 1869.

Smithsonian Report. Washington: 1868. From the Government.

Lead Palsy from Use of Laird's Bloom of Youth. Lewis A. Sayre M.D. New York: 1869. From the author.

Thomas C. Brinsmade, M.D. By George H. Hubbard, A.M., M.D. Albany: 1869. Biography.

The Dublin Hospitals. By E. D. Mapother. Dublin: 1869.

Pathology of Bright's Disease. By Wm. B. Lewis, M.D. Turner & Mignard. New York: 1869.

Intraocular Tumors. By H. Knapp, M.D., Heidelburg. Translated by S. Cole, M.D., Chicago. Wm. Wood & Co.: 1869. From publishers.

College of Physicians of Philadelphia. Transactions; Philad.: 1869.

Eastern Lunatic Asylum Report. 1869.

Men and Women Medical Students and the Woman Movement. Anon.

Long Island College Hospital. 1870. Brooklyn.

Vesico-Vaginal Fistule. By N. Bozeman, M.D. New York: 1869.

VIRCHOW.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—THE HISTOLOGY, PHYSIOLOGY AND PATHOLOGY OF THE ORGANIC NERVOUS SYSTEM.

By A. M. FAUNTLEROY, M.D., of Staunton, Va.

The expressions, great sympathetic and ganglionic nervous system, are not altogether acceptable; the former is defective in the physiological implication, as the cerebro-spinal cord is preëminently the centre of those reflex sensations and movements which have been styled sympathies; still it is undeniable that there are certain associate functions of the digestive, depurative and reproductive organs which are correlated through the instrumentality of the sympathetic ganglia and their nerves. The latter is anatomically faulty, as the cerebro-spinal system, even in man, possesses its own ganglia, and occasionally presents peripheral ganglia, as the par vagum and glosso-pharyngeal nerves. Comparative anatomy abounds in instances of the ganglionated arrangement of the nervous system, which are homologous to the nervous structures in man. The name ganglionic nervous system has been preferred by some, as no hypothesis is reflected. When an apparatus plays incontestably an important physiological rôle, it is alike natural and proper

that the language employed should be descriptive of the function. The illustrious Bichat, long ago, declared the cerebro-spinal cord to be the nervous system of animal life; and the sympathetic ganglia and their nerves, the system of organic life.*

The cerebro-spinal system and the ganglionic nervous system being distributed respectively to symmetrically and asymmetrically disposed organs were the controlling philosophical considerations in the ascription of their relative functions. Animality presents two lives; the life of relation and the life of nutrition. Experimental research has satisfactorily attested the influence of the sympathetic nervous system, upon the organic or nutritive acts, most probably through the agency of the blood vessels. In acceptance of this physiological function, a writer of high authority, within recent date, has proposed the "nervous system of the vascular apparatus" as an appropriate designation.† This nervous apparatus is similarly constructed and arranged in all the vertebrata. Being composed of numerous small nervous masses, called gangha, situated in the head, between the bones of the face, in the neck, thorax and abdomen. They are symmetrically disposed on either side of the cerebro-spinal column, constituting, with their intermedallary cord a double chain; the lower extremities uniting in the pelvis through the ganglion impar; the superior are united through their distribution upon the cerebral vessels composing the circle of Willis.

M. Bourgery esteems this distribution, the probable visceral nervous apparatus of the brain; thence nervous filaments are sent to the pituitary gland, which body, Blainville, Thierry and Brazin regard as a ganglion of

*Physiological researches upon Life and Death. By Xav, Bichat. American Edition. 1809.

†Outlines of Physiology, Human and Comparative. By John Marshall. American Edition. 1868.

the sympathetic nerve, intermediary between the brain and the splanchnic nerves. The only American author, who claims for the pituitary body such an association, is* the late Dr. John O'Kielly, of New York city. The ganglia of the head and face are called the ophthalmic, otic, spheno-palatine and submaxillary. Their connection with the cerebral nerves is established by nervous filaments from the motor and sensitive cranial nerves, upon the course of which the ganglia are disposed. Their continuity with the cervical, thoracic and abdominal ganglia is sustained by filaments from the superior cervical ganglion. There are three cervical ganglia, of which the superior is much the largest, the middle is the smallest, and is sometimes absent, and from its location has been called the thyroid ganglion (Haller). The inferior ganglion is not infrequently joined with the first thoracic ganglion (Gray). Doubtlessly a coalescence of cervical ganglia, has occurred, equal in number, perhaps, to the cervical nerves. The thoracic ganglia are of smaller dimensions than the cervical ganglia, but of more uniform size, and usually correspond numerically to the dorsal nerves. The lumbar ganglia are five in number, though most frequently reduced by coalescence into four; unlike either the cervical or thoracic ganglia, they are situated in front of the spinal column. The number of sacral ganglia is six, but is usually reduced by a process of fusion, of the ganglia, to four or five. The ganglia are small, situated upon the front of the sacrum, and converge and unite below through the small ganglion impar, which reposes upon the front of the coccyx.

The semilunar ganglia, two in number, the largest in the body, are irregular, gangliform masses, formed by the aggregation of smaller ganglia; they are situated upon either side of the cœliac axis, near the supra-renal

*The placenta, the organic nerves, etc.

glands; the inner side of each ganglion is connected with the solar plexus, which, together with the ganglia, receive the great splanchnic nerve of both sides, part of the lesser splanchnic nerves and the termination of the right pneumo-gastric. The ganglia of the cervix, the thorax and the abdomen are related to the spinal nerves through filaments mutually interchanged. The spinal filaments, the joint contribution of the two corresponding roots, assist in the formation of the numerous plexuses of the sympathetic nerve, amongst which it is important that we should mention the great cardiac, the solar and hypogastric, as from these nerves are supplied the organs and the blood vessels of the thorax, abdomen and pelvis; the sympathetic filaments, mostly the non-medullary nerves of Remak, proceed to and penetrate the roots of the spinal nerves, the anterior receiving the major share; some can be traced into the spinal cord, yet the greater part accompany the spinal nerves to their peripheral distribution.* The ganglia of the sympathetic present a striking similarity in structure, throughout the class of vertebrates. According to M. Robin, the ganglionic cell of the sympathetic, as contrasted with the cell of the posterior spinal ganglia, is small and oval, whilst the latter is large and spherical; he has declared the sympathetic cell constantly bipolar, which assertion has received confirmation from the observations of M. M. Schrœder, Luys, Polaillon, Jacubowitsch, Beale and Vulpian. A large number of multipolar cells have been observed amongst the bipolar; M. Kölliker has been led to deny the small oval cell as the peculium of the great sympathetic, because observed elsewhere. M. Kölliker has asserted further, that the sympathetic and spinal ganglia correspond so far as to contain a preponderance of uni-

* Leçons Sur La Physiologie, gènèrale et comparèe, du Système Nerveux. P. 724. By A. Vulpian. Paris, 1866.

polar cells; which declaration is rebutted by the reiterated assertion of Professor Lionel S. Beale, that "there are no *apolar* and no *unipolar* cells in any part of the nervous system." The recent researches of M. Polaillon are conclusive of the constant presence and preponderance of the bipolar cell in the sympathetic ganglia;* which cells are separated one from another by spaces equal to their diameters, the intervals being occupied by the nerves of Remak, and lamellar tissue forming channels for the blood vessels. The small oval bipolar cell has been observed in the spinal cord by M. Jacubowitsch, near the posterior commissure of the intra-medullary substance, whlch he regards as the origin of the nerves of the sympathetic; upon which M. Vnlpian very pertinently remarks: "Je ne sais pour quoi il en fait le point départ plutot que le point d'arrivèe de ces fibres." The anatomical connection between the fibres of the sympathetic and the intra-spinal cells, has not been satisfactorily demonstrated.

M. Jacubowitsch has discovered the so-called sympathetic cell also in the cortical substance of the cerebrum and cerebellum, which are related to the sympathetic cells found throughout the spinal cord, by fibres which may be traced to the floor of the fourth ventricle into the third, and terminating in the optic thalami and corpora striata, which organs are supposed to be intermediary between the sympathetic nerve fibres and sympathetic cells situate in the cortical substance of the brain.

Microscopic ganglia may be found upon the ultimate divisions of the sympathetic nervous system, identical in structure and function, with the largest pertaining thereto. In birds, M. Manz has found minute ganglia, connected by nervous filaments, upon the external surface of the muscular coat of the ureter. He found the

*Ganglions Nerveux Peripheriques. By M. Polaillon.

same element in the walls of the vasa deferentia and the ductus choledochus. The observations made by MM. Claude Bernard and E. Brown Séquard, are confirmatory of the discovery. These physiologists observed a rhythmical movement in the walls of these canals.

M. Meissner first observed minute ganglia in the submucous tissue of the intestines. M. Auerbach observed another series situated between the circular and longitudinal muscular coats of the intestines. These ganglia are esteemed to be the source of the peristaltic movements, and explain the occurrence of the movement when a severed and detached portion of the intestine has been irritated. Remak observed microscopic ganglia in the substance of the heart, located near the auriculo-ventricular valves. These ganglia must be regarded as "the nervous centres which originate a coördinate and rhythmically exerting energy, which they alternately accumulate and discharge, owing to a periodicity in their nutritive proeesses." (Marshall, Paget).

Minute ganglia have been observed by M. Julius Arnold in the lung substance of the frog. They have been noticed upon the blood vessels, especially at their points of anastomoses. M. Kölliker has recorded their appearance in the interior of the lungs, "and may be traced nearly to the termination of the bronchiæ." The hilus of the kidney, also, presents a few ganglia, "in company with the vessels as far as the inter-lobular arteries."

The sympathetic nervous system contains the coarse tubular and the fine grey fibres; the latter being relatively more numerous; the fine fibres are soft, grey, flat, granular, non-medullary, with well defined borders, though less regular than the fibres of double contour. They have been called gelatinous (Henle) and the fibres of Remak. Acetic acid blenches without destroying

them, and discloses the inclosed dark ellipsoidal nuclei (Vulpian). Microscopic observers have described the fibres of Remak as possessing neither the medullary substance nor the axis cylinder. Remak affirms the existence of the latter element in the gelatiniform fibre. A goodly number of physiologists have shared his belief in their nervous character; some German physiologists, under the leadership of M. Kölliker, have referred the fibres of Remak to the connective tissue, esteeming it simply one of the forms of the neurilemma. Professor L. S. Beale remarks: "In spite of all this it has been proved that Remak's fibres are true nerve fibres." Dr. E. Brown Sèquard, in examining the relation existing between the organization of the nerve tubes and their vital properties, says that the seat of neurility is not to be found in "the white substance of Schwann, as it is wanting in the very fine fibres; and is not in the axis cylinder, because it is wanting in many fibres; it follows that it is the membranous layer, the paries of the nerve tube, to which these vital properties belong."* We are not disposed to discuss the question, relative to the nature of these fibres, but shall be content to submit some facts which have induced physiologists of the present day to ascribe to them nervous qualities. Histological researches have shown an homology between the fibres of Remak and the pale embryonic nerve fibres. After most patient and laborious microscopic researches, Professor Lionel S. Beale declares, "that dark bordered nerve fibres before they reach their ultimate distribution, invariably assume the pale granular appearance of Remak's fibres." Comparative anatomy is clearly confirmatory of their nervous character, as microscopic study of the nervous system of the invertebrata, has disclosed a large number

*Experimental Researches applied to Physiology and Pathology. P. 40. By E. Brown Sèquard.

of fibres, which are similar in structure to Remak's fibres. For this reason the unaided eye has failed to recognize the nervous fibres in insects. The distribution of Remak's fibres may be satisfactorily interpreted only in view of their nervous quality. M. Legros has been unable to detect any other than these fibres in the erectile tissue of the corpus spongiosum. M. Vulpian has declared that the nerves of the prostate gland, the heart, liver and especially the kidneys, are composed almost entirely of Remak's fibres. These facts are conclusive that the fibres of Remak are not simply the "favored connective tissue" of the German school. In this connection, a distinguished author appositely declares, "il me semble impossible d'adopter cette derniere opinion quand on voit des nerfs, comme certains filets des nerfs rénaux, formés à peu prés exclusivement des fibres de Remak." What is the mode of termination of the nerves of the sympathetic system? M. Jacubowitsch asserts that their termination is always in a single unipolar cell. Julius Arnold has, in the frog, traced the nerve fibre into the nucleus of the cell, which he is disposed to regard as the termination of the axis cylinder. M. Vulpian has observed the very frequent presence of a single cell at the nerve terminal extremity. M. Kölliker has asserted their termination by free extremities in the corpuscles of Pacini, in the heart and mesenteric vessels of the frog. M. Pappenheim described terminal arches in the nerves of the kidney. M. Ordonez has observed the nerves terminating "en pointès," in the arteries of the brain, spinal marrow, peritoneum and iris. A like disposition has been remarked in the mesentery and inter-digital membrane of the frog, and in vessels where Remak's fibres could alone be found. M. Pfluger, has by most careful and accurately, taken observations with the microscope, determined that the nerves

sometimes terminate in the nuclei of the secretory cells of the glandular organs; at other times ending in a large multi-caudate ganglion cell, the branches from which enter and penetrate to the nuclei of the secretory cells.

Such is a fair histological summary of the ganglionic nerves, which are distributed generally to organs possessed of smooth muscular fibres. A consensus, both physiological and pathological, is thus established amongst organs to which the sympathetic nerves are distributed.

Physiology.—In order to attest the influence of the cervical sympathetic nerve upon the organ of vision, Pourfour du Petit performed a series of crucial experiments in 1712, the report of which, together with subsequent experiments, were embodied in a memoir submitted to the French Royal Academy of Sciences in 1727, which contains reflections the most remarkable, for the epoch, and may be perused with interest at the present day. The experiments were subsequently repeated by M. Dupy, of Alfort, and by Dupytren in 1816. M. Brachet renewed them in 1837; Jno. Reid experimented similarly in 1838. These observers noticed and recorded the phenomena, following their experiments, congestion of the conjunctiva, the contraction of pupil, and the retraction of eye within the orbit.* M. Claude Bernard published, in 1851, the results of his experiments upon the cervical sympathetic nerve. Subsequent observations led to a more extended report, which was read before the Academy of Sciences in 1852. The facts prominently brought forth by this distinguished physiologist were the remarkable afflux of blood and increased heat in the localities to which the severed nerve was distributed. Whilst the temperature in the sound side of the head

*Recherches expèrimentales sur Les Functions du Systême Nerveux Ganglion aire. P. 449. By F. L. Brachet. Paris, 1837.

and face was 31°C, that of the side operated upon was 37°C. The experiment was performed about the same period in America, Germany, and England, by Brown Sèquard, Budge, and Waller.

MM. Kussmaul and Tenner have shown that the elevation of temperature was due to the great afflux of blood in the parts. They ligated both carotids and then severed the cervical sympathetic nerve upon one side, and instead of an elevation of temperature there was a depreciation.

M. Van der Beke Callenfels secured rabbits of alike age and condition. Some were submitted to the cervical section; others were undisturbed. He attested greater loss of heat, in a given time, amongst those operated upon, and remarked farther that those unoperated upon withstood inanition for a much longer period.

Dr. E. Brown Sèquard claims to have been the first to suggest, as well as to demonstrate, that the dilatation of the blood-vessels, consequent upon the section of the sympathetic nerve, was due to the paralysis of their paries, as galvanization of the sympathetic nerve produced effects the reverse of those succeeding section.* M. Biffi, of Milan, had already recorded, in 1846, that dilatation of the pupil succeeded to the galvanization of the peripheral end of the severed cervical sympathetic nerve.

We should have naturally inferred that the paralysis of the walls of the blood-vessels, and the consequent afflux of blood to the eye, arising from a section of the cervical sympathetic nerve, would have occasioned an ex-orbitis rather than a retraction of the eye within the orbit. M. Liegeois has produced a very satisfactory explanation of the phenomenon from his researches in com-

*Vide Physiology and Pathology of the Nervous Centres. P. 140. By E. Brown Sèquard, M.D.

parative anatomy. Beneath the ocular globe, in the frog, there is to be found a muscle which describes a curve with its concavity superior. Upon contraction, this muscle becomes rectilinear and draws the eye outwards. Hence, congestive contraction of this muscle, with consequent ex-orbitis, follows the section of the sympathetic nerve in the frog. The explanation of the retraction of the eye, as the result of the cervical section of the sympathetic nerve, in superior animals is attributable to the absence of this muscle, together with the predominance of the power in the recti over the oblique muscles of the eye.

The section of the sympathetic nerve, in whatever part of the body, has always resulted in an increase in the calibre of the blood vessels, with an elevation of temperature. Donders and Van der Beke Callenfels removed the cranial vault of an animal, which they had previously subjected to the section of the cervical sympathetic nerve. They described the vessels of the pia-mater, as augmented three-fold in their normal volume, and as contracting as much below their normal volume, upon the galvanization of the peripheral end of the severed sympathetic nerve. To M. Claude Bernard belongs the distinguished merit of having demonstrated the universality of the influence of the sympathetic nervous system upon *calorifieation*. He severed the pelvic nerves prior to their conjunction with the sympathetic filaments, and motory and sensory paralysis succeeded, without the calorific manifestation. The same nerves, severed after their mingling with the sympathetic fibres, led to calorification in addition to the motory and sensory paralysis. Finally he educed calorification, separately, by dividing the filaments of the lumbar plexus, the function of the spinal nerves being undisturbed. Similar experiments upon the anterior members of the animal led to similar results. Thus

Prof. Bernard was fully prepared to affirm the topographical and physiological independence of the organic nervous filaments distributed to the blood vessels. He named these nerves vasculo-motor. Many experiments upon the sympathetic nerve in relation to deeply situated organs have vindicated the validity of the law of calorification. M. Budge witnessed the vascular injection of the intestines after an extirpation of the semilunar and mesenteric ganglia. M. Jaschkowitz proved that congestion followed the section of the splenic plexus. MM. Pincus and Samuel attested by experiments upon dogs, rabbits, and cats that very great hyperæmias, with increased intestinal secretion, resulted from the removal of the cœliac plexus. They witnessed also the concomitant fact that the diameter of the intestines increased three or four times their normal calibre, which demonstrated the functional identity of the sympathetic nervous filaments, which are distributed to the blood vessels and to other organs.*

Arterial Tension—May be defined as the tendency of the wall of the vessels to return upon itself, due to the vital contractility of its muscular coat. We can readily understand that the section of the sympathetic nerve should diminish this tension, in the region to which it is distributed, and that galvanization of the peripheral end of the severed filament, should augment the tension. It was believed formerly, and certain physiologists still entertain the belief, that the swiftness of the blood current is in inverse proportion to the diameter of the vessel through which it flows. Thomson and Hastings have defended this theory, which M. Marey has most conclusively refuted. Friction is augmented as the *calibre* of

*Des Nerfs Vaso-Moteurs Ganglionnaires. P. 28. Par Le Dr. A. Bordier. Paris, 1868. Having translated much of this highly interesting and instructive monograph, we desire to acknowledge the employment of its material in the composition, in part, of this article.

the vessel is *diminished.* Since the blood has to multiply its surfaces in order to traverse the successively lessening channels of the vessels, the current of the blood would be retarded. When the arterial tension is lessened, however, the quantity which flows through the vessels, in a given time, will be augmented, with a diminution of friction.

Experiments made by MM. Marey and Chauveau are corroborative of those previously made by M. Claude Bernard. This latter physiologist inserted a manometer into the right coronary artery of the lip of a horse, and another into the left; both instruments exhibited a pressure of 160 to 180 millim. Division of the left cervical sympathetic increased the blood pressure upon that side 40 millim.* The sympathetic nerve is then the regulator of arterial tension. But the variations in this last force involve parallel variations in the number and energy of the heart's contractions. The heart comports itself, in fine, as any other muscular apparatus. The arm will raise much less oftener a weight, in a certain period of time, accordingly as the weight may be greater. Still, in each of the movements of elevation which it executes, it will expend more force. Thus, in the condition of increased tension (i. e., galvanization), the heart in the expenditure of an invariable force, distributed in a variable number of contractions, will diminish the number of its pulsations to the profit or lengthening of each of them, whilst the heart will augment the number of pulsations to the cost or shortening of each of them in the section or paralysis of the sympathetic nerve.

From the preceding it follows that the vaso-motor nerves are the regulators of the heart itself. These notions of cardiac mechanics are the result of the re-

*Vide Clinical Observations on Functional Nervous Disorders. P. 28. By C. Handfield Jones, F.R.S., etc. Second American Edition. 1868.

searches of M. Marey, of France, and are fruitful in their therapeutical application. Without stepping beyond the limits of physiology, the paralytic diminution of the arterial tension amongst the very aged, is it not one of the causes of the augmentation of the number of pulsations? It results, in fine, from the researches of MM. Leuret and Mitivie, as well as from those of Dr. C. W. Pennock, that the average number of pulsations amongst the aged exceeds that of adults. Of the latter class the number is 65, and of the former 73 is the average.*

Reflex Phenomena—Action of the Vaso-Motor Nervous System Upon Secretion.—A reflex phenomenon is the succession of an involuntary movement upon an impression felt, but most frequently not felt. It demands for its occurrence the coöperation of a sensitive centre impressed by the sensation, which may react upon a motor element. These reflex phenomena of the sympathetic nervous system, though they do not differ at all from others, have received the name of *sympathies*. The sympathetic filaments being mixed at their origin, the irritation of a plexus may reflect itself upon a motor spinal nerve. We cannot longer doubt the sensibility of a ganglionic plexus.

In this connection the thoracic ganglia and cœliac plexus appear to occupy the first station. Most frequently the point of departure of a reflex action is in a sensitive spinal nerve, which is reflected through the ganglionic motor nerve. Here the spinal marrow and the sympathetic ganglion have alike served as intermediary centres. Bichat was the first to assert that the sympathetic ganglia could fulfill, in these phenomena, the rôle of a nervous centre. A great number of authors, among others Winslow, Phochaska, Grainger, and Clarke,

*"Note on the frequency of the pulse and respiration of the aged." American Journal of the Medical Sciences; July. 1847. By C. W Pennock, M.D.

have defended this opinion. M. Loget admitted the reflex capacity, but ascribed the result to an integral union between the spinal marrow and ganglia. The opinion of Bichat, farther supported by Arnold and Tiedmann, has been fully vindicated by the experiments of Prof. Claude Bernard upon the submaxillary gland. This gland receives two orders of nerves. From one side the tympanico-lingual, a cerebro-spinal nerve, and on the other hand sympathetic filaments from the greater cervical ganglion. After having exposed this gland, in a dog, it was examined (during its physiological repose, that is to say, during the period in which the saliva ceased to flow through a small tube introduced into the duct of Wharton) the emergent vessels were observed to be full of dark blood. M. Claude Bernard severed the tympanico-lingual. The middle of the nervous arc thus constituted is occupied alone by the submaxillary gland. He then galvanized the peripheral end of the severed nerve, and forthwith the blood, which was flowing black through the veins of the gland, became reddened, and at the same time augmented in quantity, flowing by jets synchronous with the cardiac pulsations, and within the same period a jet of saliva escaped by the canula.

In another experiment, M. Cl. Bernard cut the sympathetic carotidien filament, which is distributed to the gland. The blood coursed the vessels, reddened, and with abrupt jets, but the saliva ceased to escape. He galvanized the peripheral end of the severed sympathetic nerve and the blood current became blackened. The dilation of the vessels succeeded alike in these experiments, from a section of the sympathetic filament and the galvanization of the peripheral end of the severed tympanico-lingual nerve. In regard to the latter event it may be reasonably asked if the excitation transmitted to the vessels may not have been of such intensity as to paralyze

the vaso-motor nerves, resulting similarly as the section of the sympathetic nerve? However this may be, the salivary secretion requires an additional element, the cerebro-spinal in order to influence, not the vessels, but other components of the gland. In fine, secretion is not alone the result of vascular mechanics, but requires the coöperation of the proper function of the gland, and the anatomical elements, which may be under the control of the spinal nervous system. Such, however, is not the theory avowed by Prof. Claude Bernard, who regards the sympathetic element as exercising only a suspensive influence, and to the tympano-lingual element he ascribes the power of actively dilating the vessels. The hypothesis of *an active* dilatation of the vessels, admitted equally by M. Schiff, is not in conformity with the anatomical structure of the vessels. It is, besides, inadequate to explain the phenomena of local congestion. M. Béclard declared that there were two kinds of excitation upon a nerve: one violent, the other feeble. They may produce effects very different. The first paralyzes, the second occasions excitation. For example, when the nail is lightly pressed upon the skin, a white line is produced. On the contrary, a red line is observed when the nail is forcibly pressed upon the skin. May the first result be ascribed to an excitation of the sympathetic nerve, and the second to an active dilation produced by the cerebro-spinal nerves? We think not. We are inclined to the belief that contraction and paralysis have successively followed moderate and immoderate excitation of the sympathetic nerve. May not the comparison just made be applied in explanation, in great part, of the so-called reflex inhibitory actions? Above all it is needful that we should regard the degree of excitation occasioned. We may affirm that there are nerves paralyzed and not paralyzing nerves! Such is the opinion of M. Béclard

and others. Is the hypothesis of a paralyzing action needful in order to explain the arrest the heart in diastole, when a sensitive cutaneous nerve is greatly excited? Is the hypothesis essential in explanation of the arrested respiration by the compression of the superior laryngeal nerve?

MM. Cyon and Ludwig severed, in rabbits, a branch of the pneumogastric, arising from the superior portion, and terminating in the star ganglion. They galvanized the peripheral end without any notable result. They then galvanizen the proximal end, with a marked abatement of the vascular pressure. They gave to this nerve the name of *depresser*. But is not this an instance of reflex action, by virtue of which the sympathetic nerve was paralyzed, and not from the excitation of a paralyzing nerve? In the latter event would not the excitation of the peripheral end of the severed nerve have produced a like result? Most unquestionably. If the great splanchnic nerve should be galvanized, during the vermicular motion of the intestines, the movement would be immediately arrested! It is alike certain that a similar result would succeed to the section of the same nerve! In either event it would have been paralyzed.

M. Pfluger has made an experiment which is far from being confirmatory of the hypothesis of an active dilatation. He has shown that the arteries of the germinal membrane of the frog may be diminished in their calibre when the anterior roots of the spinal nerves are galvanized, which, according to the theory of active dilatation should have augmented instead of diminishing their calibre! The hypothesis of *an active dilatation should be abandoned*, because the facts in the premises, and the conception are not homogeneous. From the experiments of M. Claude Bernard upon the maxillary gland, the important facts are educed, that the functional activity of a

gland corresponds to the dilatation of the vessels, and the reddening of the venous blood is the result of an increased consumption of oxygen.

M. Pincus cut the cervical sympathetic nerve, preserving the thoracic portion, which accompanies the pneumo-gastric to its distribution in the stomach, and the gastric secretion was unaffected. In another experiment he severed the pneumo-gastric nerve at the level of the œsophageal ring, cutting at the same blow the branches of the sympathetic. The gastric secretion was arrested to such a degree that the milk taken into the stomach underwent no alteration. We have previously noticed that congestion and diarrhœa succeeded the extirpation of the solar plexus. Colin and Bernard observed, upon severing the cervical sympathetic of horses, the phenomenon of sweating in the corresponding side of the head. M. Schiff has noticed frequently, that extirpation of the cervical ganglion occasioned an effusion of serum into the cavity of the pericardium. There is evidently between the diminished tension with increased afflux of blood, and the exudation, the relative of cause and effect. In fine, M. Claude Bernard has produced pleuritic effusions alike by the excitation and removal of the inferior cervical gland. We should notice that excitation and removal of the gland have similarly resulted, because undue stimulation of the vaso-motor nerves may occasion their paralysis.

The coincidence between the physiological *moment* of an organ and the reddening of the venous blood, with a surcharge of oxygen, has been utilized by MM. Estor and Saint Pierre, in the study of the functions of the spleen. From a number of experiments carefully made, it appears that during digestion the quantity of oxygen contained in the splenic vein may be represented by 6.66, whilst, during the fasting of the animal, the quantity

increases to 11.90, the composition of the arterial blood being nearly always alike in the two conditions. These experiments have then conclusively shown that the activity of the spleen alternates with that of the stomach. Such is the rôle which the ganglionic nervous system plays, as the regulator of the amount and pressure of the blood, in the glandular system. Secretion is then in substance, only a series of nutritive phenomena, of the cells, which absorb, assimilate and deassimilate. Hence, it is not necessary to liken, with E. Brown-Sequard, the influence of the nervous system, to that of a galvanic current, in chemical phenomena.

Nutrition.—From the study of the secretions we are naturally led to speak of nutrition. During a long period, this function has been considered as the result of a nervous influence. It is not universally thought to be, the spontaneous evolution of the cellular element; Samuel, in Germany, and latterly, M. Mongeot, in France, have ascribed to the vaso-motor nerves a trophic function, and they are thought by them to be especially distributed to the anatomical elements of a gland. The more recent discoveries in microscopic anatomy, enable us to ascribe it to an influence other than that of the vaso-motor nerves. M. Vulpian has said in his lectures, made before the Musèum d'Histoire Naturelle, that "the anatomical elements possess an automatic power, each containing all the specifie tendencies."* It is difficult to understand how a nervous influence may be transmitted to such elements, for example, as the blood globules. Do we not witness nutritive phenomena the most varied in character, in the vegetable kingdom, without the slightest trace of a nervous system? MM. Robin, Blainville, A. Comte and Chauveau, have satisfactorily demonstrated that nutrition is a property of the anatomical element, either vegetable or animal. As an illustration, we find

*Legons sur la Physiologie. Page 306. By A. Vulpian, Paris, 1866.

that property presiding over and controling nutrition during embryonic life, before the existence of a nervous system. And, as confirmatory, we might cite the interesting experiments of M. Ollier, in which the osteogenetic elements of the periosteum have exemplified their capacity, when transplanted under the cellular tissue of any portion of the body. We do not design to convey the thought, that the vaso-motor system, exercises no influence whatever upon the nutritive phenomena. It enjoys unquestionably a control over the amount of nutritive materials contributed, as the vaso-motor system regulates the calibre of the blood vessels. Its function, as regulator of the blood supply, we have attested when the secretions were studied; and may find exemplication in a great number of pathological phenomena. Schiff severed, in an animal, both the sciatic and crural nerve of one side, as a consequence the vaso-motor nerves were cut by the same blow. At the end of some months an augmentation in the volume of the member, operated upon, was noticeable. It is, without doubt, in a paralysis of the vaso-motor nerves, and the increased afflux of blood, that we find an explanation of the facts observed, in the case of a young girl, by M. Friedreich. She presented a congenital and unilateral hypertrophy of the head. The pilous and pimentary structures on the right side were considerably developed; the enlarged follicles gave vent to a veritable sebaccous flux; the perspiration and saliva were alike most abundant upon this side of the head. Are these not the consecutive signs of a severed sympathetic nerve? Do we not frequently witness the pigmentary discoloration of a previously blistered surface?

Again, for an analogous reason, we never fail to observe the pustules of variola, most abundant and even confluent upon blistered surfaces, or upon those portions of the

skin which may have been the seat of an exaggerated nutritive and secretive force. Before closing our remarks upon the general functions of the vaso-motor system, we desire to present the very ingenious explanation, offered by M. Gubler, in his lectures before the Faculté, in 1858, of the office fulfilled by the sympathetic system. According to the view of this distinguished Parisian professor, the sympathetic occupies an intermediate relation to the capillaries in which the vito-chemical forces are evolved and the brain and spinal marrow which are the *consumers* of the forces. He compares "the great sympathetic to a condenser which appropriates the forces evolved and transmits them to the centres of innervation." When it discharges, says M. Gubler, "this function, the vessels are contracted and there is but little heat made sensible." On the contrary, "when it fails to carry away from the vessels the force evolved, by the vito-chemical processes, *calorification* occurs, with an expansion of the capillaries." M. Gubler was led to adopt this hypothesis, as the central nervous apparatus was furnished with an amount of blood barely adequate for its own nutrition. Here we have an implied correlation of vito-chemical force and dynamical force.

May we not confidently hope, the day is not far distant when the brilliant researches of MM. Grove, Faraday, Tyndall, Carpenter, and others, may be applied to illumine the pathway of physiological and pathological research.

Oculo-pupillary Phenomena—should claim notice or space in the history of the vaso-motor system. Budge and Waller have regarded the sympathetic filaments of the eye, as the conductors from a special centre situated in that part of the spinal cord, comprised between the fifth cervical and the sixth dorsal vertebræ. Struck with the influence of this locality upon the papillary move-

ments they gave it the name of the cilio-spinal centre. M. Claude Bernard, taking a more comprehensive view of the function of this region, called it the oculo-spinal? Hemi-section of this region of the spinal cord, occasioned the same phenomena as those resulting from the section of the cervical sympathetic. M. Bernard has traced, in dogs, the oculo-pupillary nerves, even to the anterior roots of the two first pairs of dorsal nerves, occasionally even to the third dorsal. The section of these two anterior roots produced a contraction of the pupil, with a retraction of the globe of eye in the orbital cavity. The galvanization of the peripheral end, of the severed nerves produced pupillary dilatation with exophthalmia.

According to M. Claude Bernard, the vasculo-calorific should be distinguished from the pupillary phenomena. The first may be produced separately by cutting, in dogs, the great sympathetic between the second and third rib. Reflex phenomena serve equally to distinguish them; pupillary phenomena are manitest under the influence of acute pain, though remotely situated. The spinal cord appears then to be the centre of the reflection. The ophthalmic ganglion seems to be the centre of reflection to all the vascular phenomena, as they succeed only to an excitation of that ganglion or of adjacent parts.

Entozoa in the intestinal canal, and moral emotion and acute pain may give rise to oculo-papillary phenomena. Mackenzie speaks of painful gastric affections occasioning amaurosis. M. Chauveau has demonstrated an analogous reflex action in the dilatation of the pupil consequent upon the galvanization of the posterior columns of the spinal cord. Heat produces, like the paralysis of the vaso-motor nerves, the contraction of the pupil. Cold produces an opposite effect, acting similarly with galvanization of the vaso-motor nervous system. May not the condition of the pupil be assumed as a somewhat faith-

ful index of the vascular tension of the eye and adjacent organs?

Pathology.—We have already seen the influence which changes in the diameter of the vessels, may exert in physiological phenomena. The physiological intermittence of a number of the functions, may be ascribed to an alternation of anæmia and hyperæmia. Reflex action is the instrument employed to produce these functional modifications. The same laws obtain in the domain of pathology. Where the physician observes only perverted functions; reflex action, diminished or exaggerated, may be the direct cause of the malady. Again, any one of the elements essential to the production of reflex phenomena may be separately deflected. Accordingly as these phenomena may be transitory or prolonged, local or general, conformably to the function of the organ implicated, we should have in appearance symptoms quite different, which could, however, be embraced in a few simple laws which regulate the organism.

M. Monneret has earnestly striven to show the frequency and importance of local hyperæmia. Hyperæmia has been classified, by M. Monneret, into simple; phlegmatic, hæmorrhagic, secretory and nutritive. Though the accuracy of this classification may not be challenged, yet we are forced to confess that there may frequently be great practical difficulty in referring a pathological phenomenon to any one of the divisions, as they run into each other by insensible gradations. The hyperæmia of an organ often presents them successively or simultaneously. M. Monneret recognizes three grand causes of hyperæmia: First, an alteration in the structure of the congested organ or of a neighboring organ. Secondly, a deterioration of the blood. Thirdly, a simple trouble of innervation. We may pertinently ask if in the first two instances, the sympathetic nerve has not

been paralysed by reflex action, or it may be from the impoverished blood failing to properly excite the vaso-motor nerves? The common element of hyperæmia produces symptoms as diversified as the anatomical elements of the organs themselves. We shall study its manifestation, when occurring in the principal organs.

Hyperæmia of the liver; glycosuria. As the liver fulfills a double function, hyperæmia of this organ may result either in *icterus* or *glycosuria*. Though hyperæmia may exist without being accompanied by either of these phenona. One of the most important consequences of hyperæmia of the liver is the formation of sugar. The question of glycosuria is the most convincing example of the importance of the study of physiology in the explication of pathological phenomena. Lesions have been produced by physiologists with the design of determining the rationale of glycosuria. Thus, M. Claude Bernard has occasioned this affection by pricking the fourth ventricle, between the points of origin of the pneumogastric and auditory nerves. He has also produced glycosuria by cutting the peduncles of the cerebellum, and the brain transversely. He likewise occasioned glycosuria by puncturing the olivary bodies. M. Schiff has produced the like results in cutting the pons varolii, or by pricking the medulla oblongata, indifferently at any point. The application of an intense galvanic current upon the liver has occasioned glycosuria. M. Moos produced the same result by the galvanization of the spinal cord. M. Thiernesse has produced alike results by wounding the occipital lobe of the brain, in dogs. M. Pavy has demonstrated that the section of the sympathetic nervous filaments surrounding the vertebral artery will give rise to glycosuria; he likewise proved, that the ablation of the cervical ganglion, which sends a filament to accompany the pneumogastric, and another to the carotid artery,

would produce glycosuria. We may readily understand why a lesion of the central nervous system should occasion an hyperæmia of the liver and of adjacent organs, when we recall the disposition in the ventricles, the optic tracts, corpora-striata and cortical substance of the brain, of the sympathetic cells described by M. Jacubowitsch. But M. Schiff demonstrated as early as the year 1844, the feasibility of producing, by cerebral lesions, the paralysis of the vaso-motor nerves of the intestines, and especially those of the liver. We should recollect that hyperæmia of the liver is the point d'appui in the production of glycosuria. Strong emotions of joy, fear and anger may give rise to glycosuria; cases traceable alone to these causes have been authoritatively reported. M. Andral has demonstrated from a large number of autopsies, that hyperæmia of the liver always accompanied glycosuria. This hyperæmia may be more or less prolonged. Schiff has confirmed the facts reported by Andral, by the following experiments. In the frog the abdominal blood is not distributed altogether to the liver, one branch from the inferior vena cava courses its way directly to the liver; the other goes to the heart directly. M. Schiff ligated this last, forcing all the blood to pass to the liver, which consequently became hyperæmic, and the urine became loaded with sugar. He did more than this; he applied a ligature to a member, which speedily became hyperæmic, and the urine from this period no longer contained sugar. He removed the ligature and sometime after the urine manifested the presence of sugar. M. Schiff, besides produced a like phenomenon, as the result of a cephalic congestion, by severing the cerivcal sympathetic nerve. From these experiments, M. Schiff concluded that the glycogenic substance of M. Cl. Bernard, called by himself, hepatic inuline, required a ferment, in order to become changed into sugar, and that the ferment

is developed or accumulated in an organ, by the arrest of the blood, which reacts upon the inuline, producing sugar. This theory has, however, been combatted. The conclusion, however, is unavoidable, that glycosuria may result from the hyperæmia of the liver or even from an extended hyperæmia of any part of the body. The hyperæmia is most frequently attributable to some trouble of the central nervous system. Dr. A. Duncan* reported a case of diabetes, in which the sympathetic nerve, throughout, was three or four times its usual size.

Hyperæmia of the Kidney.—Albuminuria. M. Claude Bernard has shown by his experiments upon this organ its dependence upon the law discovered and proposed by him, its relatively to the secretions of the glands in general. The phenomena of dilatation of the vessels, reddening of the venous blood, are, as applicable here, as we have found them to be elsewhere. But all these conditions, heretofore, only involved a difference in the amount of the secretion. M. Claude Bernard found, that by puncturing the fourth ventricle a little below the point to produce glycosuria, albuminuria without polyuria may be produced. He punctured the medulla oblongata a little below the origin of the auditory nerve; polyuria alone occurred without the urine becoming either saccharine or albuminous. The quality and quantity of the urine are then phenomena not dependent upon the same nervous filaments. Though albuminuria may be coincident with a diminution of vascular tension, physiological researches have shown that it may be an accompaniment of increased tension. Dr. George Robinson ligated the renal vein, and albuminuria resulted. Panum arrived at a like result in producing emboli in the glomeruli of Ruysch. It is true that the quantity of renal blood was increased, with a dilatation of the blood vessels, as the

*Pathological Anatomy; vol. 2, page 506. By G. Andral.

blood, like all liquids, is incompressible. But we can readily conceive that there may be a difference between a mechanical obstacle, established to embarrass the blood current, and the physiologieal contraction and paralysis of the vessels under vaso-motor nervous influence. Besides, these artificial conditions of exaggerated tension are far from being always fulfilled in cases of albuminuria. M. Gubler has shown, that aside from any lesion of the renal structure, albuminuria may find its explanation in "an excess of the albumen of the blood relatively to the blood corpuscles and the requirements of the economy of the protein compounds." Thus we see that the vaso-motor system does not play as important a part in albuminuria as it does in glycosuria.

Neuroses, Congestive.—These find their most complete analogy in the localization of the congestive phenomena which we have observed under the heading of physiology. Classed from an inability to do better, according to their common character, *sine materia.* They would tend, day by day, to depart from this conception, if the union was not maintained by the sudden, fugacious and localized congestion; an affinity which is real at least for some of them. The congestive neuralgia exhibit a disposition to be calmed by a cold, and exasperated by heat, consequently they present diurnal remissions with nocturnal exacerbations. Before proceeding further I wish to vindicate my doubt of their existence, *sine materia*, by presenting a few facts. Lobstein* found upon the autopsy of a female dying from excessive vomiting, during pregnancy, great redness of the semi-lunar ganglion. Again in the case of a female infant, six months old, dying from whooping cough, attended with excessive vomiting, he found the solar plexus congested. M. Valleix has recorded a case of profuse salivation, recurring twice in

*De Nervê Sympathetici fabricâ, resu et morbus. P. 147.

twenty-four hours, as the result of an attack of facial neuralgia. Joly, Mazades and Cahen have given numerous examples of facial neuralgia, with an active congestion of the conjunctiva. M. Duval has given the history of a female, afflicted with a rebellious sub-orbital neuralgia, accompanied by congestive phenomena, which resulted in the hypertrophy of the lip, due to the prolonged paralysis of the vaso-motor nerves. Pouteau has cited a case of epicranial neuralgia, which occasioned an increased growth of the hair. Within some regions, the nasal fossæ, for example, paralysis of the vaso-motor nerves may be of such extent as to occasion epistaxis. Uterine hæmorrhage or a simple leucorrhœa may succeed a neuralgic affection of the ilio lumbar region. The lumbar ganglia are, in such instances, the centre of the reflection. M.M. Marrotte and Cahen have cited some cases of this nature.

Angina Pectoris.—Generally considered, at present, as one of the neuroses, allied to the reflex actions of the vaso-motor nervous system. The cardiac or pulmonary plexus may be the centre of the refleetion, accordingly as the attack is circulatory or pulmonary, fatal syncope or apnœa may occur. Examples of reflex neuroses, originating in disturbances of the vaso-motor nerves, are abundant in pathology. Is it not to acts of this nature, that asphyxia and syncope occurring amongst the hysterical, should be referred? In this connection, a high authority,* has said, "one may witness an excess of motility and sensibility pass rapidly into immobility and obtuseness, and profuse discharges replaced by an arrest of secretion." In fine, do we not witness an exemplification likewise in the physiological and pathological union or affinity, of certain organs, the mamma and the

*Romberg on Diseases of the Nervous System. Vov 2, p. 392. Sydenham Society edition, London, 1853.

uterus? May not parotitis succeeding to orchitis, be also abscribed to a reflex action, in which the spinal cord has been the centre of the reflection? All the theories upon metastasis in these phenomena of the vaso-motor system of nerves. The reflected irritation may become manifest solely in the cutaneous vaso-motor nerves. M. Recklinghausen enjoyed the rare opportunity of making an autopsy in the case of a man affected with *zona*, in whom there was a manifest alteration of one of the posterior spinal ganglia. The point of departure of the irritation, was doubtlessly the sensitive spinal nerve, which was reflected, through the spinal centre, upon the vaso-motor nerves of a certain portion of the skin. The same explanation may be given of the vesicular and erythematous eruptions, observed after injuries to the nerves. We will, in closing this citation of the reflex origin of the vaso-motor neuroses, give the very ingenious explanation offered by M. Gubler, in regard to the redness of the cheek, consecutive to pneumonia, of the corresponding side. The excitation of the lung may have been reflected through the gangliform intumescence of the facial nerve upon that part of the face especially implicated in respiration. Exophthalmic Goître, or, Graves' disease, should be considered in this connection. The ocular congestion, the intumescence of the thyroid gland, suggest that the proximate cause may be found in some modification of the vaso-motor apparatus. A clinical teacher, whose death the medical world may well deplore, has written as follows: "exophthalmic goitre is, in my opinion, a congestive neurosis; and it is morbid entity, because it presents special phenomena; palpitation, and congestion of the thyroid gland and of the eye-balls. It is a pathological variety of the great class of neuroses, with a paroxysmal course, and should be regarded as entirely distinct from ophthalmias due to

organic diseases of the heart, while it cannot be confounded with goitre, of accidental or endemic origin." Besides, M. Tronsseau has attested its positive connection with either a "temporary congestion of the sympathetic nerve, or to a permanent structural alteration of the ganglionic nervous system." He found, upon the autopsy of an exceedingly interesting case of this disease,* the right lower cervical ganglion, especially "not only of larger size than usual, but was much redder also; numerous vessels were seen to ramify on its outer surface and throughout its interior;" microscopically examined with a power of 300 diameters, he found a "proliferation of the connective tissue of the ganglion, and diminution in the number and size of the nerve tubules; the ganglionic cells were very few in number, small, and with a mulberry aspect. Some of them were reduced to a mere granular condition." In explanation of the protrusion of the eye instead of the retraction, which paralysis of the sympathetic occasions, we shall find it necessary to adopt the suggestion of M.M. Piorry, Kœben and others, that a compression of the thyroid gland, capable of exciting the great sympathetic, will satisfactorily explain the congestion and the exorbitis. Analogous to the preceding, we would instance, the febrile hyperæmia, consecutive to an impression of cold upon a portion of the cutaneous periphery. Another example may be found amongst the hysterical, the swelling of the thyroid gland at the moment in which they experience the sensation of a ball in the throat. In his clinical lectures, Dr. Graves, attributed this sensation to the swelling of the thyroid gland; this hypothesis has been sustained, by a case occurring in the service of M. Axenfeld. In an hyster-

*Vide Lectures on Clinical Medicine, page 579, vol. 1. By A. Trousseau, Professor of Clinical Medicine in the Faculty of Medicine, etc., etc.. Paris.

ical subject, the neck, over the region of the thyroid gland, was thickly covered with petechiæ, which became considerably enlarged during each hysterical paroxysm.

Hæmorrhage.—From all that has been said it is unnecessary to insist upon the rôle which the paralysed vaso-motor nervous system plays in the production of hæmorrhages. It is to phenomena, thus sudden and fugaceous of which the nervous system may be the seat, that Donders, Metaxas and other authors, have referred the retinal hæmorrhages following moral emotion. The fevers furnish an exemplification of the same in the frequent hæmorrhages succeeding to a paralytic hyperæmia of the mucus membranes. The uterine hæmorrhage, independent of ovulation, M. Gubler has proposed to name, uterine epistaxis.

Inflammation.—Hunter has said, "that an agent, which should possess the power of contracting the vessels, would most probably prove a specific for inflammation." In fine, does not the paralysis of the vaso-motor nervous system give rise to the signs, which, during ages, have been regarded as pathognomonic of inflammation—rubor, tumor, calor, dolor? M. Claude Bernard, by the ablation of the superior thoracic ganglion, in animals, produced veritable pneumonias. A number of explanations of the redness of an inflamed part, have been offered. Hunter attributed it to the production of new vessels. Lebert believed it due to the extravasation of the despoiled coloring matter of the globules. Vogel attributed this coloration to the dilatation of the vessels.

The experiments of M. Claude Bernard upon the influence of the sympathetic nerves upon the secretions, led MM. Estor and Saint Pierre to make some researches from which was disclosed, that the *venous blood* of an inflamed part is reddened, and the quantity of oxygen which it contained is augmented, doubly, in amount

beyond the quantity found in the blood of the corresponding portion of the body. The swelling; when we reflect upon the variations which simple hyperæmia may effect in the volume of either the liver or the spleen, we can readily understand the influence which a considerable afflux of blood, would have upon the volume of an inflamed part. The experiments of M. Claude Bernard have shown that when the quantity ot blood is augmented there will be an increase of caloric. M. Weber has experimentally demonstrated that the temperature of the *arterial* blood of an inflamed part is less, whilst the venous blood temperature, is above similar heat measurements made in symmetrically disposed parts. The sensibility; an increase of sensibility is due to the hyperæmia. Should a sinapism be applied to a member previously anæsthetic, it may be demonstrated, by the employment of a pin, that return of sensibility is confined within the borders of the rubefaction. But all these phenomena do not transcend the limits of congestion. We have no proliferation of the cellular elements (Virchow) or an undue increase of the germinal matter (Beale) of the inflamed tissue. The humoralists, of which school Dr. J. Hughes Bennett is an able expositor, should be convinced that the blood vessels, though they fulfill an high ministerial (Simon) office, are alone inadequate to the production of all the phenomena of inflammation. Solidism and humoralism are alike too exclusive to fulfill all the conditions; the truth seems to be in a combination of these two theories, which have long been opposed to one another. The dilatation of the vessels, with the afflux of nutritive materials, arise from hyperæmia, the proximate cause of which is some modification of the vaso-motor force. The nervous system may directly influence nutrition, Professor Claude Bernard, having been the first to discover that "the blood

vessels dilate in consequence of a greater attraction for arterial blood developed in the tissue." (Brown Séquard) Doubtlessly, "nervous influence does sometimes excite inflammatory action, but when it does so, it acts directly on the nutritive chemico-vital processes, and not by virtue of changes in the calibre of the vessels."* Finally, that inflammation of the cornea or cartilage may occur, "and not in the line of an irritated nerve," seems plainly to declare the sufficiency of the tissue-cell to respond to what Niemeyer calls "insulte," without the assistance of any nervous centre."†

Neuroses: Anæmic.—The effects of local anæmia upon the various organs have been much less studied by physiologists than its opposite state. The physician rarely has an opportunity of observing the former in an isolated condition, favorable to observation. It is often an affair of mechanical compression, as for example cirrhosis of the liver. The phenomena observed in this neurotic class are opposite in character to those presented by hyperæmia. M. Dubois Raymond presents the following order of phenomena, as occurring in *megrim*. The vasomotive modification, observed in the commencement in the dilatation of the pupil and palor of the face. The solution of the attack will be announced by the return of the ocular and auricular turgescence. This is the crisis of the disease, which oftentimes displays itself in lachrymosis, coryza and epistaxis. However, M. Dubois Raymond has been careful to remark, that headache, in a number of instances, may be congestive in form. According to Dr. E. Brown Sèquard, epilepsy may be appropriately classed with the anæmic neuroses. Here we would locate, also, a great many cases of so-called cerebral congestion, popularly known in France as the "coup

* Autograph letter from Prof. James L. Cabell, M.D., University of Virginia.

† Virchow's cellular Pathology. Transl. p. 229.

de sang," which may occur in connection with dyspepsia. M. Trousseau says, that "very often simple epileptic vertigo and vertigo connected with the disordered stomach are wrongly looked upon as cases of cerebral congestion." The palor, at the commencement of an attack of epilepsy, places it by the side of the galvanization of the great cervical sympathetic. And the contraction of the vasculo-muscular fibres, are analogous to that of the muscles of the face, neck and thorax. Valleix, Louis, Notta, have recorded instances of the autopsy of the inferior member as the consequence of an obstinate neuralgic sciatica. M. Bonnefin in his excellent thesis upon muscular atrophy, consequent upon neuralgia, has published nineteen cases, which came under his personal observation, besides a number of cases observed by M. Charcot, Duchenne, Vidal, Brown Séquard and Rayer. M. Notta has ascribed the atrophy to the malnutrition of the nerves involved. M. Bonnefin offers a kindred explanation. The trouble seated in the trunk of the nerve reacts upon the spinal cord, which in time reacts upon the vaso-motor nerves, occasioning a diminution in the calibre of the vessels, with an abatement of temperature, and an insufficient muscular alimenation. This explanation is consonant with the teachings of physiology, and is worthy of consideration.

There is an affection described by M. Gubler, under the title of *amyotropic paralysis*, which may be appropriately considered here. This affection, M. Gubler asserts, "may exist independently of any organic or functional disturbance of the muscular nervous filaments, arising solely from perverted nutrition of the muscular tissue. This denutritive action occasions an excessive accumulation of albumen in the blood which finds an outlet through the kidneys." This nutritive perversion, which may be either partial or general, arises doubtlessly from

a modification of the circulation in the muscles affected, which is consecutive to an alteration of the vaso-motor nervous filaments or of the ganglionic nervous centres. Recent facts gathered from cadaveric observations upon the subjects of a cognate malady, reflex or peripheral paralysis, appear to sustain the accuracy of the supposition. Dr. E. Brown Séquard asserts, with regard to reflex paralysis, "that the paraplegia caused by an outside irritation is due to a reflex action, and probably to a reflex contraction of the blood vessels of the spinal centre, and to the insufficiency of nutrition that follows this condition of the vessels,"* This hypothesis and its modification, suggested by Drs. Mitchell, Morehouse and Keen† were, and may be still by many, acceptably received. The researches, however, of Drs. L. Dumenil, Echeverria, Laborde, Cornil, Kussmaul and others, have clearly and satisfactorily established the association of reflex paralysis with an anatomical alteration of the peripheral nerves, the spinal cord and the ganglionic nervous centres. The observations, made by himself and others, have led M. Echeverria, in his very able and interesting monograph upon reflex paralysis, to the conclusion that "the ganglionic nervous system is and may solely continue affected until the lesion reaches the spinal cord."‡ The anatomical changes observed in the ganglionic nervous system; the reduced temperature of the paralyzed limbs; "the peculiar migration of the paralysis, and from the variable degree in which parts are respectively involved;" the damaged condition of one set of muscles in cases of local paralysis, with an unimpaired condition of others, supplied with filaments from the same nervous

*On the Diagnosis and Treatment of the principal Forms of Paralysis of the lower extremities. P. 25. By E. Brown Sêquard. 1861.

†Circular No. 6 Surgeon General's Office, March 10, 1864.

‡Reflex Paralysis: Its pathological anatomy and relation to the Sympathetic Nervous System. P. 64. By M. Gonzalez Echeverria, M.D. 1866.

trunk; the association of this affection "with sensibility peculiar to disturbances of the sympathetic;" the irregularities of circulation in relation to the paralysis; these are phenomena observed by Echeverria and others, which clearly associate reflex paralysis with an alteration of the organic nervous system.

ART. II.—LIFE OF DR. JAMES RUSH, OF PHILADELPHIA, PA. By W. MASON TURNER, M.D., Philadelphia, Pa.

"Died in this city (Philadelphia) Wednesday, May 26th, 1869, Dr. James Rush, in the 84th year of his age."

Such is the brief notice, the writer of this article read in the Medical and Surgical Reporter, of June 5th—such are the few lines, which tell so tersely of the passing away of a great and good man—the death of a gigantic mind; the going out of a lamp, which in its "day and generation," did so much to scatter abroad the light of knowledge and thought.

It were hard, in this broad land of ours, to find a student of medicine, or philosophy or of (the broader, grander theme) nature, who is not familiar with the name of RUSH. With all, it is respected and revered; with many, the man is now ranked among the Penates of the household, the library and the academic hall.

In leaving us, as it were, without a sign at parting, without even a hasty adieu, the great man has left behind him more monuments than one, by which he may be remembered; those monuments, *not* of pale marble or storied urns, have their devices and sad *in memoriams* written, the one on the pages of learning and science, the other engraved deep in the hearts of those who, living after him, love and revere him.

For some ten or twelve years past, Dr. Rush has been

but rarely seen in public, in fact, since the death of his beloved wife, he has led the life of a recluse, seeing but few friends, and only of these, the most intimate. The man, in early life, was very different; when young, he was fond of society; and as he was eminently handsome then, in person, and gifted with rare conversational powers, he was, what might be expected, universally popular. Of latter years, however, the brilliant powers, which in other days, enchained those around him, were, to a great extent, unused, not idle exactly, but little employed; and in the retirement of his princely mansion, on Chestnut street, the man so pleasing in the social circle, so mighty in the world of letters, locked himself, a melancholiast, from the bustling world outside.

James Rush was born in the city of Philadelphia, on the 16th of March, 1786, in a house, still standing, on Second street, and which should be sacred to all who love the man, for himself, or revere his memory for the undying works he has left.

His parents were Dr. Benjamin Rush (of whom every body has heard) and Julia Rush, a daughter of Richard Stockton, who was a signer of the Declaration of Independence. The Rush family was historical in the earliest days of the Republic. Dr. Benjamin Rush, father of James, was a signer of the "Declaration" likewise, and was the author of numerous works, the greater portion of which remain to us, as *standards*, to-day. Richard, another son of Dr. Benjamin Rush, was Minister to France and England, and at one time Secretary of the Treasury.

James, the subject of this sketch, was educated at Princeton College and at the Medical College of Edinburgh, graduating finally at the University of Pennsylvania. What ancient temple of medical learning can boast an alumnus of more unsullied bright, and brilliant name

and fame? He was abroad several years in pursuit of education, and in 1846, he revisited again Europe, and extended his travels to Egypt.

When quite a young man, Dr. Rush married a Miss Ridgway, afterwards well and widely known as *Madam* Rush. The memory of this elegant lady is green still in the memory of many in Philadelphia, who remember her, for her unselfish qualities and vigorous, independent intellect. I would state here, as a matter which may be of interest, that Madam Rush died on the 23d of October, 1857, at Saratoga, where she had spent the Summer. She had no children.

Dr. Rush lectured for some time *privately*, but never as a professor in a college. He was not committed to any denomination in his religious faith. In habits, he was exceedingly studious and abstemious, though, as we have already said, in early life, very fond of society. I am told that, when a young man, he was *very* handsome; how he looked of late, I can not learn, as he left no photograph or lithographic likeness of himself.

Dr. Rush was the author of several works, viz: Philosophy of the Human Voice; History of the Intellect; Rhymes on Contrast, and Hamlet, a Dramatic Prelude; all showing wondrous vigor of thought and the firm hand of the master, in execution.

In a literary way, however, he is chiefly remembered by the work first mentioned: Philosophy of the Voice. This book was first printed, for the author, by J. Maxwell, of Philadelphia, and was copyrighted by Dr. Rush, January 20th, 1827. The work, and most every reader is familiar with it, though it must be said, it is incomprehensible to the greater portion, is divided concisely into sections; among which, the following would well repay a reading, as they contain a fund of information, viz: Section 8—Quality of the Voice. Section 33—Force of

Voice. Section 45—Drift of the Voice. Section 46—Vocal Signs of the Passions. Section 47—Instruction in Elocution. Section 49—Faults of Readers, and his analysis of Song and Recitative.

For the interest of the medical reader, I will quote briefly, the Doctor's views on the Causative Mechanism of the Voice, which will show the state of our knowledge in that regard, at that time. (It may be necessary to state, that Dr. R. published, years afterwards, another edition of his work on the Voice, but his views were not, in most respects, materially changed.)

This is the quotation, however: "The result of physiological inquiries on this subject is not satisfactory. * * * There are few confirmed opinions on the mechanism of speech; and honestly speaking, according to the duties of philosophy, we are bound to acknowledge—of nearly all the physicial causes of the varieties of the voice—we know nothing. We know that the voice is made by the passage of air through the larynx, and cavities of the mouth and nose. From experiments on the human larynx when removed from the body, and from observations upon the vocal functions of dogs, by exposing the organ in living animals, it is inferred, with great probability that the production of the voice is immediately connected with the vibration of the ligaments of the glottis. We have no precise knowledge of the causes of pitch, its formation having been, by authors, differently attributed to the contraction of the glottis—the shortening of its chords—their altered degrees of tension, the varying velocity of the current of air through the aperture of the glottis—the rise and fall of the whole larynx, and the consequent variation of length in the vocal avenues, between the glottis and the external limit of the cavity of the mouth, and of the nose—and finally, to the influence of a union of all the causes. * * * —and

of late years, the chord of the Æolian harp and the reed of the hautboy have furnished mechanical pictures of the voice."

For the sake of giving what is thought to be definitely known on this subject, in these days of the Laryngoscope and its marvelous revelations, I have consulted Dr. J. Solis Cohen, of this city, a gentleman who has given to this branch of physiology a long and especial study, and whose ideas—original and acquired—are the very latest and the most authentic. Dr. Cohen informs me, however, that his opinions are not exactly in accord with those of Mārcet, lately promulgated in the philosophical Transactions.

As nearly as I can, I will use Dr. Cohen's own words, as follows: "The voice resembles a reed instrument, of which the organ-pipe may be taken as the type, the vocal cords representing a reed on each side of a tube, each reed being free on one surface only. In the formation of the voice, the two cords approach until they almost touch; and the expired air, as it escapes between them, sets them in tonal vibration. Now, if we examine vocalization with the laryngoscope, we find that with the lowest register, the cords vibrate their entire length, together with the arytenoid processes, which are inserted into them. And, as the notes rise higher, the arytenoid become more closely pressed together, until eventually, when we reach the lower *a* or *b flat*, in the male, and the *c* or *c sharp* in the female voice—the arytenoids have become firmly applied to each other, and their processes being fixed, the vibration is then confined to the vocal cords alone. This continues, the tension of the cords increasing so that they appear to shorten, until we reach the *f* or *f sharp*, in both male and female voices, which completes the chest register. Then, as we change into the falsetto the tension relaxes, and the cords and the arytenoid again assume the

relation they did at the lower notes of the chest register, and the same phenomena recur, *only that now the edges of the vocal cords vibrate, instead of their entire breadth.* The same change occurs at *a* or *b flat* in the male, and at *c* in the famale, as in the chest register; and this falsetto form continues up to *f* or *f sharp* as before, when we come to the *head-tones.* Here an entire change takes place in the actions of the cords. Heretofore the glottis presents an ellipse, through which the air rushes; now, however, the vocal processes of the arytenoid (which extend some distance into the body of the vocal cords of such persons as are able to accomplish the head-notes) become closely applied to each other, firmly closing that part of the glottis and the anterior, two-thirds of the vocal cords separate, in the form of an *oval*, through which the air rushes.

The difficulty of finding vocalists who can make the head-tones properly, and the difficulty in holding the epiglottis sufficiently erect when making the head-tones, to expose the anterior portion of the glottis, renders it difficult to determine the phenomena of vibration. Dr. Cohen is inclined to believe that the edges of the cords, and, *they alone* vibrate, although the opinion entertained by others is, that the sound is produced by the action of the air alone, as in the formation of the tones of the flute.

Such, as given most lucidly by Dr. Cohen to whom I am thereby under obligations, is now considered true, as regards the causative mechanism of voice.

* * * † * *

Though in early life, Dr. Rush, in common parlance, *had a plenty*, yet in later years an immense fortune was his. The bulk of this fortune amounting, I am told, to over one million of dollars, was given under certain conditions to the Philadelphia (Franklin) Library Company,

there remaining a claim on his estate, only of about $10,000 per annum. This will, or as it has been called by some, this "magnificent and munificent behest," has caused much comment; but the object of the testament can be seen by the following extract taken from the Philadelphia *Ledger*, June 30th:

Princely Bequest of Dr. Rush.—The will of Dr. James Rush was proved yesterday. It devises and bequeaths his large estate (valued at a million of dollars) substantially as was stated in these columns on Friday last, viz: To his executor in trust, to provide a lot and erect thereon an "exceedingly substantial" fire-proof building, well lighted and conveniently arranged, to be conveyed in trust to the Philadelphia Library Company for its uses. The testator at first limited the selection of the lot to some point between Spruce and Race and Fourth and Fifteenth street, but subsequently, by a codicil, left the selection of the site to the "thoughtful foresight" of his executor, without any limitation as to size and locality. It is understood, however, that the testator gave oral expression to his preference for the lot between Broad and Thirteenth and Christian and Carpenter. The bequest is accompanied by conditions and by advisory restrictions that can be fully understood only by a perusal of them as published in our local columns. The motive of the testator is to erect an enduring monument to the memory of Jacob Ridgway, his father-in-law, and that of Phœbe Anne Rush, his deceased wife, from whom he derived the greater part of his estate; which monument, while it shows his "respect and regard" for Mr. Ridgway, and his "affection and gratitude, for Mrs. Rush, he hopes will be "infinitely more useful" than any other he could erect. The bequest is subject to legacies amounting to about $10,800 per annum."

From a notice I saw in the Age of the 9th inst., there seems to be some doubt whether the Library Company will accept the legacy on the terms indicated in the will of the deceased. This notice states that "a meeting of the members of the Library Company, of Philadelphia, will be held on Tuesday, 29th inst., at 12, noon, at the Library building, for the purpose of considering the pro-

priety of accepting the devices and bequests of the late Dr. James Rush, *on the conditions therein expressed*," etc. The italics are mine.

At the risk of encroaching further upon the valuable space of this journal, I presume to insert a beautiful tribute to the memory of Dr. Rush, from the editorial page of the Age, said to be from the gifted pen of Moncure Robinson, Esq.:

In Memoriam.—Forty years ago, there was opposite the State-House, in this city, a charming private mansion. Its occupants were a gentleman and lady, intelligent, accomplished and amiable, highly gifted, and of the highest culture. Strangers properly introduced there were always sure of a cordial welcome, and of finding themselves in a circle not numerous (for the residence was of limited dimensions), but one in which there was everything to make a visitor appreciate the delights of cultivated and polished society. No one who had the good fortune to have the free entry of this residence can ever forget its many and varied attractions, or what was most attractive of all, the genial and refined courtesy of its hospitable host and hostess.

The income of the dispensers of so much pleasure was at this period a very moderate one, but they had a taste for the true and beautiful, and they enjoyed, equally with their guests, that interchange of thought, so delightful when free of formality, and subject only to the restraints unfelt and unperceived of kind and cultivated natures.

At a later period there came to them one of these accessions of fortune, more trying often than adversity, and to which so few are found equal. It was not so with Dr. and Mrs. Rush, the subjects of this brief notice. It was their pleasure that the advantages of this accession to them should be extended as far as possible to others, and the construction of a large and princely mansion enabled them, during the life-time of Mrs. Rush, to extend a magnificent hospitality both to their fellow-citizens and strangers. It is unnecessary to do more than advert to what is so well and so extensively known.

That large and princely mansion has been, since the death of Mrs. Rush, now nearly twelve years, closed to almost every one, and its remaining possessor has led a

life of almost complete seclusion. But the will of Dr. Rush, lately published, shows that though, with the loss of his beloved partner, he had no longer a love of society, he had not become indifferent to the public welfare, or less thoughtful for others, than in his earlier and happier days. If some of its provisions seem to be singular, they are explained by the late secluded life of its author, and his deep interest in the object of his will. His magnificent donation to our Philadelphia Library is in keeping with his character, and will, it is to be hoped, preserve and embalm his memory and that of Mrs. Rush in the hearts of their fellow-citizens.

Dr. Rush died, after a comparatively brief illness, of something resembling an asthmatic affection.

* * * * * *

I regret that every endeavor of mine to procure a likeness of the eminent deceased are unavailing.

For many of the facts given in this sketch I am indebted to the kindness of Alexander Biddle, Esq., of Philadelphia, and to that gentleman I desire, through this medium, to return my most sincere acknowledgments.

ART. III.—MORAL AND PHYSICAL INFLUENCE OF THE MOTHER'S MIND ON THE EMBRYO IN UTERO. By T. J. WILLIAMSON, M. D., Cincinnati, Ohio.

There is no condition in life where the placidity and tranquility of the mind is so imperatively called for as during the term of gestation.

Mrs. B., of Virginia, an excellent lady, of fine cultivation, the wife of a tradesman, became *enciente;* this so enraged the husband that, during her entire term of pregnancy, he treated her with great brutality, and forced her to take emmenagogues with the view of destroying the embryo, but all to no purpose, and in due season she gave birth to a fine male child. When the boy was old enough to distinguish one person from an-

other, he became afraid of his father, and nothing could appease his fear. As he grew older his fear turned to hatred. The once brutal husband was now a devoted father, and loved his promising son with great affection, but he was at last compelled to send him from home to school, from which he never returned during the lifetime of his father. For fifteen long years they never saw each other. About three years ago the father died, while the son, a noble young man, now stands high as a jurist in his native State. He deplored his unnatural feeling, and often declared, with tears, that he could not tell why it was so.

The growing and burning affection of the mother may stamp the image of the idol of her heart upon the fœtus in utero. Mr. W., my uncle, once employed a Miss Huffman as teacher in his family. Her powers of mind, virtues of heart, and charms of person could not be excelled. Her right inferior extremity, however, was some three or four inches shorter than her left. She had a lustrous brown, and a laughing blue eye. Mrs. W., who is one of the kindest and most affectionate of women, formed an attachment for Miss H., which was perhaps as holy as that which bound Damon and Pythias together. Becoming *enciente*, she gave birth to a female child, whose right leg, like that of Miss H., was three or four inches shorter than her left, and one eye is brown while the other is blue. The girl is now grown, and could hardly be distinguished from Miss H. were they both of the same age.

The mother's mind, through sympathy, pleasure or hatred, may bear with such power upon the nerves of sensibility, as to entirely transform the perfect human form of the embryo into that of the lower order of animals, and instead of a perfect child being born to gladden the mother's heart, she becomes the wretched parent of

a human monster. In the language of Prof. Bedford: "If you ask me to explain why, my answer is, I cannot, except as a matter of observation; but there are many things which I firmly believe, and yet cannot comprehend, except on the principle of faith. Man's belief would be sadly curtailed, if he rejected everything for which he could not give a satisfactory explanation." These facts, so potent, should not be overlooked by the mother, as the observance of them is a duty which she owes alike to herself as well as to the well-being of her children.

ART. IV.—CASE OF CONGENITAL OCCLUSION OF THE OS UTERI. By J. B. GARRISON, M.D., Woodville, Tenn.

On the 25th of April, 1868, I was called to see F. H., a negro girl, æt. about sixteen years, on account of the non-appearance of the menses. Upon inquiry, I ascertained the following facts: Up to the age of thirteen years, nothing unusual had occurred in her history, except that she had been considered rather delicate. About this time her health grew worse, though not sufficiently so to confine her to bed, or to prevent her from working in the field. At about fourteen her illness assumed a more decided character, as indicated by neuralgic pains in the pelvic region at intervals of a month or more, and which prevented her working out-doors during their continuance, which at first, was for only a few days at a time. These symptoms gradually increased in severity, until I was consulted, at which time the monthly paroxysm was attended by great pain and convulsive manifestations. There had been no appearance of the menses, and the mother of the patient reasonably attributed the ill health to this fact, and had given her innumerable domestic remedies to "bring on her courses," some of which she

said afforded temporary relief from the pain. At the time of my visit, I found the patient feeble and very much emaciated. Thinking the case somewhat unusual, I made a digital examination, which was accomplished without difficulty, leading me to infer that the sexual appetite was unimpaired. Upon touching the cervix, I found a hard, conical protuberance equally resisting to the finger in every part. Its position was normal, though less than the ordinary size. A bivalve speculum was introduced and the parts brought into view, but no os uteri was discovered, and no evidence that there ever had been any. The whole vaginal tract was lined with a tenacious deposit resembling the diphtheric exudate, and when it was wiped off the mucous membrane underneath presented a dark red, congested appearance, but there was no indication that there had ever been any active inflammation in any part; hence, I concluded the condition was congenital.

I seized the posterior wall of the cervix with a tenaculum and drew the organ downward and forward, held it in that position, and made a crucial puncture with a narrow tenotomy knife, about half an inch in depth. I introduced the knife each time a little posterior to the mesian line of the cervix, and directed the point of the instrument a little anteriorly. The tissue resisted like cartilage for the depth of half an inch, when this resisttance ceased, and the knife was withdrawn. Very little hæmorrhage followed. A sound was next introduced which passed very readily into the body of the uterus for a distance of more than two inches, and on being withdrawn a small quantity of thick, dark blood oozed out; its tenacity was such that it adhered to the sound. The edges of the incision retracted as if there had been considerable tension of the part, and the artificial os remained patulous. Had it not been for this fact I would

have introduced a tent. I put the patient on cimicifuga; she menstruated in a week, and has continued with tolerable regularity ever since. No further surgical treatment was necessary. She rapidly gained flesh and strength and had no return of former symptoms.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—CASE OF DAVIS B. LAWLER—AMNESIA OF WRITTEN LANGUAGE; VERTIGO; UNEQUAL PUPILS; INTERMITTENT AND IRREGULAR PULSE; DEATH; AUTOPSY. By ROBERTS BARTHOLOW, M. D., Prof. of Materia Medica and Therapeutics in the Medical College of Ohio, etc.

The case of the late Davis B. Lawler is, in some respects, so remarkable that an account of it can not fail to interest the medical profession. He had, for many years, an intermittent and irregular pulse. During the last two years of his life he presented an example of that peculiar mental defect—*amnesia of written language.*

A *post mortem* examination enabled me to verify the existence of lesions which I had diagnosticated during life.

Not to weary the reader with prolix details I refrain from narrating the almost daily observations made during the fifteen months of my attendance. It will suffice to embrace all the facts under the following heads:

Objective symptoms.

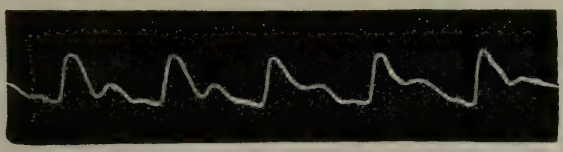
Subjective symptoms.

Autopsy.

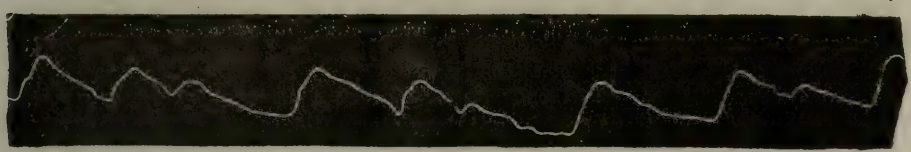
Objective Symptoms.—Mr. Lawler presents the usual characteristics of advanced age. He is now in his eighty-second year.

Pupils of unequal size, the left being dilated and motionless. The reflex and accommodative movements of right eye are normal. With the aid of glasses he has no difficulty with near objects; remote objects he distinguishes as readily as is usual at this period in life. An *arcus senilis* exists in both corneæ. A commencing opacity is detected in the left crystalline lens.

The pulse is exceedingly irregular. It is intermittent, but the interruptions of the pulse-beat are not uniform; a full pulsation is followed by a variable number—from two to five—of very small and quick pulsations, each of which varies from the others in duration and force, and then a pause occurs. The peculiar quality of his pulse is shown in the subjoined sphygmographic trace taken by the sphygmograph of Marey. I made the observation when he was in the erect posture, and at a time when he was comparatively free from cerebral disturbance.



It will be perceived, on examination of this tracing, that the *ascent* of the wave is broken, the *summits* irregular, and the *descent* unmarked by the normal dicrotic movement. The first wave—on the left hand—is followed by two smaller waves, and an intermission in the beat, and the second by three small waves, each differing from the others in amplitude. In order to exhibit the wide departure of this tracing from the normal, I append a trace taken from the pulse of Dr. B. C. Ludlow, of this city.



The physical signs are in accord with the sphygmographic trace. A loud double bellows murmur is audible at the base of the heart, and thence propagated in both directions. I therefore diagnosticate obstruction and regurgitation at the aortic orifice with also mitral insufficiency. The evidences of calcareous degeneration, as furnished by the state of the radial arteries and the *arcus senilis*, indicate that similar changes have taken place in the cardiac valves on the left side. As the irregularity of the pulse has been observed, according to Mrs. Lawler, for more than twenty years, it does not appear what relation exists between the changes in the valves and the altered rhythm of the heart's movements. It is probable, however, that calcareous degeneration has preceded the irregularity of the pulsations. (4)

The vegetative functions are well performed for this period of life, the nutrition of the body being maintained at a uniform level. He had, however, during my attendance, several severe and alarming attacks of gastro-intestinal disorder. After recovering from these, his nutritive forces soon repaired the waste.

The functions of animal life are less energetically performed. His walk is tremulous and ill-assured. In consequence of a cerebral disorder, to be presently described, he had often much difficulty in maintaining the vertical position, and he had several severe falls producing serious concussion of the brain. One of these accidents occurred in September, 1867, and was followed by alarming symptoms. He had complete use of his tongue, and articulation until within a few weeks of his death was not impaired. His vocabulary was extensive and rich, especially in unusual words, but names of persons, places and dates frequently escaped him.

Subjective Symptoms.—The most frequent subject of complaint with Mr. Lawler was vertigo. At all times he experienced more or less, but frequently the attacks were so severe as to incapacitate him from any physical or intellectual exertion. When he rose from the bed, or attempted to exercise his mind deeply on any topic, the vertigo came on accompanied by nausea. During these attacks his eyes were suffused, his face congested, and the veins of the forehead swelled.

The vertigo seemed to me to be due to, 1st. the irregular supply of blood to the brain in consequence of the obstruction and regurgitation at the aortic orifice; and, 2d, to a structural alteration of some part of the left hemisphere of the brain, as evidenced by the dilatation and immobility of the left pupil.

For about forty years Mr. Lawler had suffered from a neuralgic affection, involving the cutaneous nerves, chiefly of the inferior extremities, but sometimes also of the trunk. He described the sensation as a sudden, sharp pain, shooting along the limb like an electric shock. In only one instance had decided alterations of nutrition followed the pain in a spot, but the skin of the legs was rather smooth and shining, indicative of partial nutritive changes. The pains were frequent, but not constant, coming on usually about 11 A. M., and increasing in intensity toward evening, and subsiding during the night. Although he had consulted physicians in various coun-

tries he had not found relief. A wet bandage, which he was in the habit of applying, assuaged the pains somewhat. As Mr. Lawler inherited a strong predisposition to gout, it is probable that this neuralgia was gouty in character and origin.

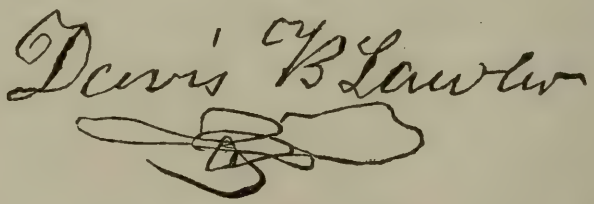
The most interesting feature of the case was the *amnesia of written language.* Mr. Lawler had lost the power to recognize the characters by which we express ideas. This mental defect, as I was informed by Mrs. Lawler, had existed from September, 1867, when Mr. Lawler, in falling, had suffered a severe concussion of the brain.

Since some of my readers may not be familiar with this peculiar condition of the mental faculties, it may be proper to enter somewhat more into details. Under the term *aphasia*—a word proposed by Trousseau—is included loss of the faculty of articulate, written and sign language. A man suffering under this disease, although in a mental condition to think—to have ideas—and to appreciate the conditions surrounding him, is unable to communicate his ideas to others. In other words, his memory for the signs by which we communicate ideas, is obliterated. Now, this condition, when it includes all the modes of expression, is denominated *aphasia.* But it may exist in a partial degree. Thus a man may have lost his memory for words, and yet be able to communicate his ideas by signs; or, he may retain his memory for words and lose his memory for the written and printed characters, in which words are expressed. This latter constitutes *amnesia of written language;* the term amnesia meaning, of course, loss of memory.

This mental defect—aphasia or amnesia—has been most commonly associated with disease on the left side of the brain. Gall, as is well known, had located the faculty of language in the anterior lobes of the brain. Drs. Dax, father and son, governed by pathological experience, had, curiously enough, fixed the position of this faculty in the left anterior lobe; and Dr. Paul Broca, also influenced by pathological observations, restricted its limits to the third left frontal convolution and the island of Reil. Aphasia is most commonly associated with right hemiplegia. In the experience of Dr. Hughlings Jackson, of London, this relation always exists. That the brain, a symmetrical organ, should have so important a faculty as the memory for the words and characters by which we express ideas, situated upon one side only, is a

curious circumstance, but not without analogies in other faculties. Mr. Moxon, in the British and Foreign Medico-Chirurgical Review for April, 1866, explains this departure from the law of bilateral symmetry in the organs of relation thus: "One side of the brain operates immediately; the other consensually in all symmetrical movements."

Mr. Lawler presented an example of that limited degree of aphasia—loss of the faculty of written or printed language. That it depended upon disease in some portion of the left hemisphere was indicated by the dilatation and immobility of the left pupil. The autopsy revealed the seat and character of the lesion. Mr. Lawler could see the written or printed characters, but they conveyed no information to his mind. So great was his distress at being unable to read, that I suggested to Mrs. Lawler that an effort be made to teach him the characters anew, and for a time he laboriously studied a child's primer with this object. What is still more singular, he could perform the automatic art of writing correctly enough. He was in the habit of writing directions upon his slate in regard to business transactions, but he was unable subsequently to read the writing. He could, indeed, immediately after writing, and while the subject matter was fresh in his mind, tell what he had written, but he could not read the characters. This peculiarity may be illustrated by an occurrence which happened under my own observation. One day as I sat by his bed a check was brought to him to be indorsed. He put on his spectacles, and wrote his name on the check in his usual manner. Handing it to me he said, "Doctor, is that my signature? I see that I have written something, but I can not read it." I am able to give below a *fac simile* of this signature:



It was a great grief to Mr. Lawler to be thus bereft of so important a faculty. He constantly bemoaned his unfortunate mental condition, and looked forward with gloomy forebodings to the complete loss of his intellec-

tual powers. He possessed by nature superior mental gifts, and they were enriched by travel, by reading, and by reflection. The comparison of his present enfeebled mental state with his former intellectual activity greatly embittered his last days.

Autopsy.—I omit all details not necessary to explain the symptoms observed during life. Besides the general condition due to age, the changes of structure found were in the circulatory system and in the brain. Most extensive calcareous degeneration existed throughout the arterial system. The aorta was hard, brittle, and chalky in color, and large calcareous plates could be detached from its serous lining. The semilunar valves of the aorta were extensively calcified, and the aortic orifice so narrowed that the little finger could be just pushed through. The *chordæ tendinæ* of the mitral valve had also undergone calcareous degeneration, and portions of the valves likewise. The walls of the left ventricle were somewhat hypertrophied.

The basilar artery, the arteries of the circle of Willis, the middle and anterior cerebrals, were thick, hard, white and chalky. The basilar artery was of the size of a goose quill. All of these arteries had varicose dilatations, a condition of things which extended to the smaller arteries of the brain, so far as I examined them.

There was a small amount of serum in the arachnoid spaces, The convolutious of the brain were remarkable for their depth and complexity. No alteration could be found in the third convolution of the left side, in the island of Reil or neighboring parts, except the same alterations in the arteries which existed throughout the brain. Section of the hemispheres disclosed no lesions of the central white matter, or of the cortical periphery. The right lateral ventricle contained a small amount of clear serum. The left was distended with fluid, its posterior cornu being much enlarged, occupying most of the posterior lobe, which was hollowed out to contain the fluid. A very thin stratum of cerebral matter, consequently, was interposed between the tentorium and this cavity. The serous lining of the enlarged left ventricle was opaque and thickened. Attached to the left choroid plexus, and firmly wedged against it in its descent through the middle cornu of the ventricle, was a globular calcareous mass, a half inch in its transverse diameter. This calcareous mass, by compression of the vessels

of the choroid plexus, interrupted the return of blood from this part of the brain, thus causing the effusion above described. As a part of the choroid plexus was dragged down, the anterior portion being kept tense, it is rendered evident that at some previous time the calcareous mass had occupied a different position. The history of the case indicates that the mass was dislodged and falling down into the middle cornu compressed the choroid plexus at the time when Mr. Lawler suffered the severe fall and concussion of the brain, which was followed by amnesia of written language. I do not claim for this opinion anything more than that it is a plausible conjecture.

The reader will doubtless observe that this case is an exception to the mass of observations which have been reported locating the lesion of aphasia in the third left frontal convolution and the island of Reil. It is certainly true that other exceptional cases have been reported; but the rule is, nevertheless, that amnesia of spoken or written language is associated with lesion of the left hemisphere of the brain. Few cases have been reported in which aphasia depended on lesion of the *right* side of the brain. Mr. Lawler's case then conforms to the general rule; but it demonstrates, so far as one case can, that the posterior lobe of the brain takes part in the important intellectual operations of speech and of written language.—[*Cincin. Med. Jour.*

ART. II.—HISTORICAL CONSIDERATIONS CONCERNING THE PROPERTIES OF THE ROOTS OF THE SPINAL NERVES.

Although we have in a previous number of this Journal, briefly alluded to this subject, we deem it of sufficient interest to warrant this more extended notice, for which we are indebted to Prof. J. C. Dalton, M.D., of this city. In the Quarterly Journal of Psychological Medicine and Medical Jurisprudence, for October, 1868, Prof. Austin Flint, Jr., gives an extended and critical account of the discovery of the separate localization of sensation and motion in the anterior and posterior roots of the spinal nerves. It is always interesting to know the exact way in which we have arrived at the knowledge of any important fact in medical science. And in this partic-

ular instance it seems that a singular error has prevailed in regard to the real authorship of one of the most important points relating to the nervous system. Sir Charles Bell has been generally—almost universally—credited with this discovery, even in France, while it is really due to Magendie, as Professor Flint's analysis of the claims of the two rival physiologists abundantly shows. There are only two publications of Sir Charles Bell which have been regarded, within the last fifty years, as bearing directly on this point. One of them, the "Idea of New Anatomy of the Brain," printed in 1811, does not really contain any thing which corresponds to our present knowledge of the distinctly motor and sensitive character of the two roots of the spinal nerves. It has been supposed to contain the germ, at least, of this discoveryonly because it is so easy to misunderstand the expressions of an author who looks at his subject from an entirely different standpoint from our own.

It is almost as difficult to appreciate fully the ideas of medical men belonging to a state of medical knowledge dating half a century ago, as to anticipate those which will be in rogue half a century to come. We can only do so by keeping in mind all the imperfections of medical science at that time, and by understanding the expres sions there used exactly as if no subsequent discoveries had been made. We thus place ourselves in the position of the authors, and are then able to appreciate what their words really mean.

Sir Charles Bell's pamphlet of 1811, far from indicating the distinction of the two spinal roots into sensitive and motor, really advances the idea that the anterior roots are devoted at the same time to sensation and voluntary motion, while the posterior roots are devoted to the "vital" functions, i. e., to the actions of the digestive, circulatory, and secreting organs, and the like—in other words, to the functions of "organic" life, as we should express it at the present day.

The other paper of Sir Charles Bell, relating to this subject, was a memoir "On the Nerves," etc., presented to the Royal Society, in 1821. In this paper he endeavored to show that certain nerves, such as the fifth pair of cranial nerves, were devoted to *sensibility and voluntary motion*, while others, distributed to the same parts, sueh as the seventh pair, or facial nerves, were intended to provide for the necessary *involuntary* or *respiratory* mo-

tions. A careful perusal of the original paper, in the Philosophical Transactions of the Royal Society, leaves no doubt that this was the entire object and scope of the memoir. So far, then, no one had indicated, in the most cursory way, the real characters of the anterior and posterior spinal roots.

Now, in 1822, Magendie performed and published his experiments, bearing directly upon the anterior and posterior roots of the spinal nerves, and established the distinctively motor character of the former, and the sensitive character of the latter. When the truth of this fact was fully recognized, as it very soon was, a previous discovery was claimed for Sir Charles Bell, on the strength of his former publications; and, singularly enough, he succeeded in gaining and keeping, not only for the rest of his life, but for many years afterward, a very general credit for a piece of scientific property to which he had not the least genuine title.

From the aecount of Sir Charles Bell's works given above, it would seem almost incredible that such a mistake could have been made. But it happened in this way. That the credit of the discovery had been assigned to Sir Charles Bell is owing simply to the fact that the two papers upon which his claim was based have usually been examined, not at first hand, but at second hand, and in this way have been misunderstood.

The pamphlet of 1811 was soon out of print, as it was only printed at first for private distribution; and it has been accessible, since then, mainly in the form of quotations advanced for controversial purposes. The paper, presented to the Royal Society in 1821, has been also generally neglected, being seldom referred to, even by those interested in the subject, because it was "reprinted" in Sir Charles Bell's work on the nervous system, published several years afterward. But, when this "reprint" is compared with the original paper, it is found to have been carefully altered in all the passages which would betray the author's ignorauce, as to the real character of the motor and sensitive nerves of the face, at the date of its first publication. It is really upon these altered passages that Sir Charles Bell's claims to priority over Magendie have so long rested; and, if the memoir had been reprinted as it was actually written in 1821, no doubt would have existed that the discovery of the distinct seats of sensation and motion was first made and announced to the world by Magendie in 1822.

Professor Flint has brought out these facts in a very striking and convincing manner, by printing, side by side, the original memoir, as it still stands in the Philosophical Transactions for 1821, and the reprint, as taken from Sir Charles Bell's work on the nervous system. The extracts are given as follows:

*Extracts from the Memoirs of Sir Charles Bell, published in the Philosophical Translations and in his work on the nervous system.**

Original.	*Reprint.*
ON THE NERVES; GIVING AN ACCOUNT OF SOME EXPERIMENTS ON THEIR STRUCTURE AND FUNCTIONS, WHICH LEAD TO A NEW ARRANGEMENT OF THE SYSTEM. By Charles Bell, Esq., communicated by Sir Humphrey Davy, Bart., P. R. S. Read, July 12, 1821. Philosophical Transactions, London, 1821, Part I., p. 398, *et seq.*	ON THE NERVES; GIVING A VIEW OF THEIR STRUCTURE AND ARRANGEMERT, WITH AN ACCOUNT OF SOME EXPERIMENTS ILLUSTRATIVE OF THEIR FUNCTIONS. From the Philosophical Transactions, 1821, with some additional explanations.—*The nervous system of the human body, as explained in a series of papers read before the Royal Society of London.* By Sir Charles Bell, K. G. H., etc., etc. Third edition, London, 1844, p. 33, *et seq.*
Of the Trigeminus, or Fifth Pair. In all animals that have a stomach, with palpi or tentaculi to embrace their food, the rudiments of this nerve may be perceived; and always in the vermes, that part of their nervous system is most easily discerned which surrounds the œsophagus near the mouth. If a feeler of any kind project from the head ot an animal,	*Of the Trigeminus, or Fifth Pair, the nerve of sensation and mastication.* In all animals that have a stomach, with palpi or tentacula to embrace their food, the rudiments of this nerve may be perceived; and always in the vermes, that part of their nervous system is most easily discerned which surrounds the œsophagus near the mouth. If a feeler of any kind pro-

*The passages which have been altered are printed in italics.

whether the antenna of a lobster or the trunk of an elephant, *it is a branch of this nerve which supplies sensibility to the member and animates its muscles. But this is only if it be a simple organ of feeling, and is not in its office connected with respiration.*

ject from the head of an animal, whether the antenna of a lobster or the trunk of an elephant, *it is by a branch of this nerve that it is supplied with sensibility. But if it be not merely a simple organ of feeling, but in its office connected with respiration, another nerve is added. The trunk of the elephant is not a simple feeler; it is a tube through which it respires, and therefore it has a different nerve superadded, to move it as a hand, and to expand it in the act of inspiration.*

From the nerve which comes off from the anterior ganglion of the leech, and which supplies its mouth, we may trace up through the gradations of animals a nerve of taste and manducation, until we arrive at the complete distribution of the fifth, or trigeminus, in man. Here, in the highest link, as in the lowest, the nerve is subservient to the same functions. *It is the nerve of taste and of the salivary glands; of the muscles of the face and jaws, and of common sensibility. It comes off from the base of the brain in so peculiar a situation, that it alone, of all the nerves of the head, receives roots both from the medullary process of the cerebrum and the cerebellum.* A ganglion is formed upon it near its origin, though some of its filaments

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pass on without entering into the ganglion. Before passing out of the skull, the nerve splits into three great divisions, which are sent to the face, jaws, and tongue. Its branches go minutely into the skin, and enter into all the muscles, *and they are especially profuse to the muscles which move the lips upon the teeth*—(pp. 409, 410).

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Of the Respiratory Nerve of the Face, being that which is called the Portio Dura of the Seventh.

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In this extensive distribution, the nerve penetrates to all the muscles of the face; *muscles supplied also with the branches of the fifth pair. Its branches penetrate to the skin accompanying the minute vessels of the cheek*—(p. 411).

EXPERIMENTS ON THE NERVES OF THE FACE.

Aa ass being thrown, and its nostrils confined for a few seconds, so as to make it pant and forcibly dilate the nostrils at each inspiration, the portio dura was divided on one side of the head; the motion of the nostril of the same side instantly ceased, while the other nostril continued to expand and contract in unison with the motions of the chest.

entering into the ganglion. Before passing out of the skull, the nerve splits into three great divisions, which are sent to the face, jaws, and tongue. Its branches go minutely into the skin, and enter into all the muscles, *and they are especially profuse to the lips*—(pp. 47, 48).

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Of the Portio of Dura the Seventh Nerve—the Motor and Respiratory Nerve of the Face.

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In this extensive distribution, the nerve penetrates to all the muscles of the face; *muscles supplied also with the sensitive branches of the fifth pair*—(p. 50).

EXPERIMENTS ON THE NERVES OF THE FACE, *with a view to ascertain the uses of the portio dura.*

If an ass be thrown, and the portio dura be cut across where it emerges upon the face, before the ear, all the muscles of the face, except those of the jaws, will be paralyzed. If its nostrils be confined for a few seconds, so as to make it pant and forcibly dilate the nostrils at each inspiration, and if the portio dura be now divided on one side of the head, the motion of the nostril of the same side will instantly cease, while the other nostril will continue to expand and contract in unison with the motions of the chest.

On division of this nerve, the animal will give no sign of pain; or in no degree equal to what results from dividing the fifth nerve.

An ass being tied and thrown, and the superior maxillary branch of the fifth nerve exposed, touching this nerve *gave* acute pain. *It was* divided, *but* no change *took* place in the motion of the nostril; the cartilages *continued* to expand regularly in time with the other parts, which combine in the act of respiration. If the same branch of the fifth be divided on the opposite side, and the animal let loose, he will not pick up his corn; the power of elevating and projecting the lip, as in gathering food, was lost. He will press the mouth against the ground, and at length will lick the oats from the ground with his tongue. In my first experiment, *the loss of motion of the lips was so obvious*, that it was thought a useless cruelty to cut the other branches of the fifth—(pp. 412, 413).

On division of this nerve, the animal will give no sign of pain; or in no degree equal to what results from dividing the fifth nerve.

If an ass be tied and thrown, and the superior maxillary branch of the fifth nerve exposed, touching this nerve *gives* acute pain. *When it is* divided, no change *takes* place in the motion of the nostril; the cartilages *continue* to expand regularly in time with the other parts which combine in the act of respiration; *but the sensibility is entirely lost.* If the same branch of the fifth be divided, on the opposite side, and the animal let loose, *the parts will be deprived of sensibility*, *and* he will not pick up his corn; the power of elevating and projecting the lip, as in gathering food, *will appear to be lost.* He will press the mouth against the ground, and at length lick the oats from the ground with his tongue. In my first experiments *the loss of sensibility of the lips was so obvious*, that it was thought a useless cruelty to cut the other branches of the fifth—(p. 52).

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From these facts we are entitled to conclude, that the portio dura of the seventh is the respiratory nerve of the face; that the

From the facts we are entitled to conclude, that the portio dura of the seventh *is the nerve of motion to the muscles of the forehead, eyebrow,*

motions of the lips, the nostrils, and the velum palati, are governed by its influence, when the muscles of these parts are in associated actions with the other organs of respiration —(p. 414).

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OF THE FUNCTIONS OF THE TRIGEMINUS, OR FIFTH NERVE, AS ILLUSTRATED BY THESE EXPERIMENTS.

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Independently of the difference of sensibility in these nerves, there was exhibited, in all these experiments, a wide distinction in their powers of exciting the muscles. The slightest touch of the portio dura, or respiratory nerve, convulsed the muscles of the face, whilst the animal gave no sign of pain. By means of the branches of the fifth nerve, *it was more difficult to produce any degree of action in the muscles, although, as I have said, touching the nerve gave great pain*—(p. 58).

eyelids, nostril, lips, and ear; that is, to all the muscles of the face except those of mastication—that it is the respiratory nerve of the face; that the motions of the lips, the nostrils, and the velum palati, are governed by its influence, when the muscles of these parts are in associated action with the other organs of respiration—(p. 54).

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OF THE FUCTIONS OF THE TRIGEMINUS, OR FIFTH NERVE.

* * * * *

Independently of the difference of sensibility in these nerves, there was exhibited, in all these experiments, a wide distinction in their powers of exciting the muscles. The slightest touch of the portio dura, or respiratory nerve, convulsed the muscles of the face, whilst the animal gave no sign of pain. By means of the branches of the fifth nerve, *it was not possible to excite the muscles, if the trunk of the nerve were divided behind the part bruised; that is to say, if the communication with the sensorium were cut off*—(p. 58).

The paper from which the above extracts are made does not treat directly of the spinal nerves, but many passages are so worded in the reprint as to make it appear that its author recognized fully the distinction between the motor and sensitive nerves throughout the system; and, as we before remarked, it has been referred to by Shaw and others in evidence that these facts were well known before the publication of Magendie's experiments. In republishing a paper of this kind, the author undoubtedly

had a right to make such additional explanations and such corrections as might be demanded by the advanced state of knowledge on the subject; but such alterations should have been so introduced as to be distinguishable from the original matter. Many additions, not bearing on the subject under consideration, have not been quoted; and we have noted some unimportant alterations so as not to destroy the sense of the extracts; but a careful comparison of some of the passages which have been put side by side will make it evident that most of Sir Charles Bell's definite knowledge regarding the seat of motion and sensation in the nervous system was acquired after the first publication in the *Philosophical Transactions*.

In the first extract, in speaking of a branch of the fifth, it will be seen that Bell confounds the two properties of motion and sensation; but he corrects this error in the reprint. He again speaks of this nerve as receiving roots from the medullary process of the cerebrum and the cerebellum; which, in the reprint, he calls "column of sensibility and that of motions." In the first publication he calls the portio dura simply the "respiratory nerve of the face;" and in the reprint he has modified his phraseology, and speaks of it as the "motor and respiratory nerve of the face." In another place, he details an experiment in which the superior maxillary branch of the fifth was divided in an ass; and in the reprint states that sensibility was entirely lost, etc., but does not mention this in his original paper. He also says, in the same connection, that after this operation "the loss of motion of the lips was so obvious," etc., and in the reprint he has it that "the loss of sensibility of the lips was so obvious." A careful study of the first memoir will show that he never made correct applications of the terms motor and sensory with reference to different portions of the nervous system; and that this memoir of 1821 added nothing; as regards the discovery of the functions of the roots of the nerves, to the paper printed in 1811.—[*New York Med. Jour.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D.

IPECAC IN VOMITING.—In the Lancet, Dec. 4, 1869, C. C. Fuller, F.R.C.S., in response to an invitation by Dr. Anstie, gives his experience in regard to the action of minute doses of ipecac in vomiting. In the vomiting of pregnancy, after having found, by long experience, that each of the following remedies are frequently useful, viz: Hydrocyanic acid, opium, nitrate of potash, oxalate of cerium, nitro-muriatic acid, bismuth, alkalies and quinine; he has been eompelled to regard them all inferior to small doses of ipecac. He relates the history of two cases in which vomiting had persisted throughout four previous pregnancies, that were relieved in less than two days of retching and vomiting, by the administration of one drop of the wine of ipecac in a teaspoonful of water every hour. On the second day she ceased to vomit and the remedy was afterwards used only on the occurence of nausea.

In the *sickness and diarrhœa of children*, in which the discharges are frequent and slimy, and also when they are of a grape-green color, drop doses of the wine of ipecac every hour or two, pro-re-nata, are eminently successful in relieving the sickness and oftentimes the diarrhœa.

In a case of vomiting a few minutes after taking food, which had resisted other treatment for four years, and in which no cause for the complaint could be discovered, the patient was cured in four days by the use of the ipecac as given in the cases named above.

In the vomiting of *drunkards*, the remedy has entirely failed in the hands of Mr. Fuller.

[The writer has recently tested the value of the remedy in one case, with a favorable result. A lady, aged 35 years, in her fifth pregnancy, who had suffered from persistent nausea and vomiting during the first three months of each of her former periods of gestation, was unable to

assume a sitting or erect posture without an increase of the nausea, accompanied by persistent retching and vomiting. Other remedies had been tried, viz: oxalate of cernim, French brandy, morphia and liquid pepsin, without benefit. The wine of ipecac, given as directed above, was employed. On the second day the vomiting ceased and she has since enjoyed a degree of ease and comfort never before experienced.—J. M. H.]

TREATMENT OF ASCITES BY COPAIBA.—In the Middlesex Hospital, Drs. Thompson and Liveing, have treated successfully a number of cases of ascites by the remedy named above. In one of these cases there was liver obstruction and the patient had been tapped three times; in another the kidneys were diseased; in another the heart was diseased. The two last named had general dropsy besides. All recovered from the effusion under the copaiba treatment.

The following is the plan of treatment adopted by Dr. Duffin, at King's College Hospital, in a case of ascites from cirrhosis of the liver, reported in the Lancet, Feb. 29, 1869. For three days, 15 minims of the balsam were given three times daily, in one drachm of mucilage and one ounce of cinnamon water. This produced slight nausea, which subsided on the third day. On the seventh day each dose was increased to 20 minims. On Dec. 18th, date of commencement of treatment, the patient passed ten ounces of urine; on the 21st, fourteen ounces; the quantity of urine passed increased gradually until on the 14th of January (23 days afterward) he passed fifty ounces. The ascites had entirely disappeared on Jan. 18, and he was discharged on the 28th of January "quite free of the dropsical affection."

SYME'S AND PIROGOFF'S OPERATION.—At St. Bartholomew's Hospital, in a case requiring removal of the foot, because of recurring disease of the tarsus and meta-tarsus, Mr. Savory selected the method of Mr. Syme in preference to that of Pirogoff, because "of the tendency of the os calcis to become similarly affected, and the difference in the length of the limb is not very considerable." A few days before, Mr. Paget removed the remaining portion of the os calcis from a patient who had submitted to Pirogoff's operation three months before.

The second operation became necessary because of constant and severe pain in the stump that followed the first operation, associated with inflammation of the tendons of the leg.

HYPODERMIC INJECTION OF MERCURY IN SYPHILIS.—On Nov. 26, 1869, Dr. Oppent reported to the Clinical Society of London the notes of eight cases of syphilis treated by the above method. Four were cured; one still under treatment and progressing favorably; two were much better when lost sight of; one had to discontinue treatment on account of the formation of abscesses. In his opinion, the injections should be distributed equally over the body; small doses, frequently repeated, is the best plan; and this plan is especially useful, when inunction cannot be applied, and the digestive organs will not bear the employment of mercury by the mouth.

Dr. Burdon-Sanderson said that less irritation followed its injection about the sides of the chest than into other parts of the body.

Dr. Beigel found the method useless in primary syphilis, but very beneficial when eruptions were present.

SYPHILITIC HEADACHE.—Dr. Edward McLean, of Syndhurst, formerly house-surgeon St. Bartholomew's Hospital, employed, with great success, the iodide of potassium in five-grain doses, three times daily, in the treatment of the above affection. He asserts that headache is quite common, as the *only symptom* of a syphilitic taint, either inherited or acquired; that it is a persistent affection, unaccompanied by nodes on the head or by any form of secondary or tertiary eruptions or ulcerations." That no mention is made of it by the books ordinarily used in the schools. That when a headache has continued for some length of time and has resisted the ordinary remedies employed, under the impression that it proceeds from gastric or other intestinal derangements, close enquiry should be made into the previous history of the patient with a view to ascertain whether or not syphilis is the cause. In the case of a young lady, who had suffered for two years, the existence of inherited syphilis "was shown by the appearance of the teeth," which were like unto those described by Mr. Hutchinson. She was relieved by the potash treatment. A carpenter who had been treated by Dr. McLean for Hun-

terian chancre, returned in seven months to be treated for simple headache, after having been treated by another physician who told him that it was due to derangement of the liver and stomach. There was no other evidence of syphilis but the pain, which was speedily relieved by the potash.

VAGINISMUS CURED WITHOUT OPERATION.—Dr. Wharton P. Hood reports, in the Lancet, Dec. 11th, 1869, a case of this affection cured by simple dilation without the use of the knife, as recommended by Dr. Sims. The lady had been married two years, during which time all attempts at marital intercourse had failed. The health of both husband and wife had suffered thereby. She greatly feared any operative procedure involving the use of the knife. Dr. W. administered chloroform and found the hymen ruptured, but the vaginal canal small and rigid, and some slight redness and irritation of the parts. He, without delay, introduced a dilating bivalve speculum, and by gradually turning the screw attachment opened the blades to the fullest extent. The instrument was allowed to remain about five minutes. After a slight feeling of discomfort for a week, the attempts at intercourse were renewed with complete success. The wife has since been delivered of a healthy child.

Dr. W. thinks that this simple plan of treatment should always be tried before Dr. Sims' method is adopted, which latter he cannot help thinking is "calculated, in some cases, to produce contraction of the parts and thus rather aggravate the evil complained of."

TREATMENT OF VAGINISMUS.—In a letter to the Lancet Dec. 18, 1868, Dr. Ed. John Tilt, refers to the above case treated by Dr. Hood, and calls attention to a similar method recommended in his "Hand-book of Uterine Therapeutics." He agrees with Dr. H. in his criticism upon the method of Sims, but doubts the truth of the assertion that it has been generally accepted by the profession as justifiable. Dr. Tilt prefers forcible dilation of the vagina by the thumbs of the operator, the patient being under chloroform, to the employment of the bivalve speculum, although the result is the same from either method. He furthermore advises the subsequent introduction of a large metal bougie to be retained in place by a T bandage and worn for a few days.

Cases requiring such treatment are, in his opinion, exceedingly rare; vaginismus being usually merely a symptom of some form of uterine disease or vaginitis, the cure of which is followed by the subsidence of the vaginal spasm.

GALVANIC CAUTERY IN PERINEAL FISTULA.—Mr. G. E. Segg. Pearce, Westminster, reports a case of perineal fistula successfully treated by this means. The man, aged 24, had, two and a half years previously, a perineal abscess which was lanced by a surgeon on board a ship. The urine had continued to dribble through this opening ever since. On the 22d of July, 1869, a No. 10 catheter passed readily into the bladder through the urethra, a silver probe, passed through the fistula, came in contact with the catheter in the membranous portion. The fistula was therefore very deep; and Mr. P. thought that the use of the galvanic cautery most appropriate, because an iron heated before introduction could not be directed to the bottom of the sinus with certain precision, and if this were possible, the white heat would be expended before it reached the urethra. He, therefore, introduced a loop of platinum wire, taking care that the sides of the loop should remain separated. A battery of six Graves' elements was then attached and the wire, raised to a white heat was made to traverse the whole surface of the sinus. An elastic catheter was retained in the urethra for a week, during which time all of the urine passed through it. Producing irritation it was then withdrawn, when in a few days, a few drops of urine dribbled through the fistula. Another catheter was introduced and allowed to remain three days. He left the hospital on the 1st of September and returned on the 14th of November, perfectly sound, reporting that the sinus closed on the 4th of September.

OPERATION FOR IMPERFORATE HYMEN WITH RETENTION OF MENSES.—Dr. C. R. Drysdale, Metropolitan Free Hospital, reports a case which recovered after an operation performed for the relief of this defect. The patient, aged 15, had suffered a month previously, "with gnawing pains at the lower part of the back and loins and down the thighs." This soon passed off, but returned in a fortnight. Four months previously she suffered from retention of urine, requiring the use of the catheter, at which

time she suffered from pain in the abdomen. When admitted, her abdomen was somewhat distended, and upon examination a bluish tumor projected between the labia, due to the pressure of the retained menses upon an imperforate hymen.

A very small puncture was made in the centre of the tumour through which a treacly liquid oozed for five days. Her pulse averaged 100. On the eighth day, after all discharge had ceased, a crucial incision was made through the hymen. No untoward symptoms occurred, and the rapid convalescence and successful issue, was in no small degree attributable to the small size of the puncture and the *gradual* evacuation of the contents of the vagina and uterus.

[This case recalls to the mind of the writer the incidents of a case of traumatic occlusion of the vagina which was operated upon by him in 1859. The occlusion followed the birth of a child delivered by craniotomy, and was evidently due to adhesion of the opposing surfaces of the vaginal walls after destructive inflammation. The occluding cicatrix was about half an inch in thickness. The menses had been retained for eighteen months. The distended uterus could be felt distinctly through the abdominal parieties. At each return of the catamenial period she had severe convulsions. A very large trocar was made to pierce the centre of the occluding cicatrix and the menstrual fluid allowed to flow away through the canula rapidly. This was accompanied by expulsive pains. The uterus speedily contracted to its normal size. In less than thirty-six hours; active inflammation of the uterus and vagina supervened, seriously endangering the life of the woman. She recovered entirely, but after a long and tedious convalescence. The sponge tent and bougies were employed to dilate the opening. My former partner, Dr. T. A. Phillips, of Vernon, Miss., attended the case with me. It is very evident that the metritis following the operation was mainly due to the mistake made in effecting a rapid evacuation of the accumulated menstrual discharge.—J. M. H.]

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, ıɹəʌ oɹəʌ as.'t,

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ART. I.—LESSONS FROM THE MEDICAL CLINIC AT THE "HOSPITAL DE LA CHARITE," GIVEN BY S. JACCOUD, Assistant Professor to the Faculty of Medicine at Paris; Physician to the Hospital St. Louis; Chevalier of the Legion of Honor; Corresponding member of the Royal Academy of Science of Lisbon, and of the Medical Societies of Berlin, Vienna, Wurzburg, etc. Containing 29 Wood-cuts and 11 Chromo-lithographs.

FIRST LESSON.

Introduction.—Frank Pneumonia.—Preamble.—Connection between Clinical Medicine and Pathology.—Double Character of the Clinic, Science and Art.—The Necessity of a Double Teaching.

Exhibition of a Case of Frank Pneumonia.—Connection between Symptoms and Lesions.—Pathogenetic Interpretations of Dyspnœa and Icterode Suffusion.

Natural Progress of Pneumonia.—Thermometric Cycle.—Ascension *état*.....defervesence.—Complex Phenomena of Defervesence.—Sources of Therapeutic Indication. [Translated by Dr. J. D. JACKSON, of Danville, Ky.]

Gentlemen:—Called unexpectedly to the honor of filling the place of Professor Natatis Guillot, I have experienced, I ought to say, a deep and painful surprise. I am certain that you will partake of this sentiment, when you learn that it is because of his health, that our dear master, of whom I have honor of being the pupil and friend, has suddenly withdrawn from these exercises, the accomplishment of which has been the object of his constant solicitude. Last year, as many among you can bear testimony doubtless, this eminent professor inaugurated his clinical lessons in the midst of our plaudits, and the successor of glorious memories, he showed himself the worthy rival of those illustrious men whose teachings have shed so much lustre upon the medical and surgical clinic of La Charité. In addition, gentlemen, it is proper

that you should know, that experiencing already the first touches of disease which has to-day separated him from us, it was only in his energetic will, in his incessant devotion to your serious interests, that our master found the necessary strength to bring to a close, the task which had been commenced. This year, his hopes were the same; it is true, that he was not ignorant at what a price he had achieved the preceding victory; he was nevertheless decided to have a struggle of the same kind, and you found him but lately faithful at his post, at the hour marked for his duties. His strength this time has been beneath his courage, and yielding finally at the instance of his friends, M. Natatis Guillot has thought he owed it to himself to take repose. We hope that a rest of some months will suffice to restore the loved professor whose absence we regret, and on the day when he shall return among us, you should show him by your acknowledgments, that you have not forgotten his lessons, any more than you have the boundless devotion he has testified for you.

I do not wish here, to enter upon any of those high doctrinal questions, the the exposition of which were regarded not long since as a necessary introduction to a clinical course; for refraining, I have a good reason, of which I hold that you should not remain ignorant.

I do not think it absolutely indispensable to make the good practical physician, to agitate those grand questions of medical philosophy which ought to be left to physiology and general pathology, to whose jurisdiction they exclusively belong. The importance of these problems, undeniable to the thinker who seeks a philosophical doctrine, becomes very doubtful for a physician who wishes simply to perfect his clinical education; the idea which one has of the first cause of life, of the vital principle, and of their connections with the organism, and

the origin and nature of the disease, will not that I know ever serve to recognise the existence of a disease in a given case, to foresee its probable issue, and to oppose the most suitable treatment. The proof of what I advance, shines forth through all the epochs of the history of the art. We see in effect, that the physicians of all times, sects and schools, meet equal and united, before the bed of the sick. Arrived there, all spiritualists and naturalists, vitalists and organicists, forgetting the controversies of the cabinet, leaving their theoretical discussions, propose to themselves the same end, the cure of the patient, and for attaining this end, they all occupy themselves with discharging this double obligation: to recognize by the methods and processes of practical medicine, what is the actual disease, to find out in what manner the patient is affected with it, and the positive indication of an opportune therapeutic intervention.

I repeat it, I am far from denying the importance and the interest, of those questions, but I say that it is necessary to leave to anything, the place to which it appertains, and that those discussions borrowed of a transcendentalism which is not without its dangers, ought to rest absolutely foreign to the domain of the pure clinique.

I abandon them heartily and demand of you beforehand, permission to submit to your attention two principles, which do not require discussion, and which ought never to be lost sight of.

Life in its two phases, I wish to say, in the state of health and disease, is submitted to fixed laws; the aggregate of the laws governing health, constitues physiology; the laws of the morbid state, form the domain of pathology. As the first has for its aim the recognition of the phenomena of the sound organism, to establish their character, to seize their mode of production, to disengage their concatenations and reciprocal subordination, so

likewise, pathology studies the phenomena of the diseased organism one with another, those which accompany, and those which precede and succeed. It is very evident, without giving any demonstrations, that the laws which govern these two modes of life are fixed; if it were otherwise, pathology, no more than physiology, had ever been constituted, and the facts acquired by the observation of to-day would be without import or value for the morrow. It is because the phenomena of normal life are fixed that physiological science had its birth; it is because the phenemena of abnormal life, a deviation of precedents, are submitted, in their apparent disorder, to invariable laws, that pathology has been created. In that which touches special pathology, it is the fixedness of the forms of morbid life, which has permitted observers to seize and recognise, in the midst of pathological complexities, a certain number of types, of which each may receive a special name, because it can be distinguished from all the others, by the totality of those characteristics. These types, are the morbid species. Upon the perpetuation of these species reposes special pathology, as upon the immutability of the normal functions, is founded organic physiology.

After this, you will easily appreciate the relations of the clinic to physiology. Under the name of diseases, or morbid species, the one studies the types, from which the other describes the characteristics; this description is nothing else than the synthesis of a great number of isolated cases, the principal and constant phenomena of which have been carefully collected and classified: now, in this fusion, necessary for didatic description, many of the interesting traits have disappeared, for it is in the pathological species, as in the zoölogical and botanical, its fixity does not exclude individual varieties. Then, it is precisely these varieties, which appertain to the clinique,

and they are then the exclusive characteristic: the clinic does not consider isolated facts simply; it has recourse to a vigorous analysis, when pathology proceeds by a synthesis which always carries with it something artificial; in brief, it studies individuals, where the other studies species. You see clearly by this, that it is an error, to confound the one with the other. In the presence of the patient, it is not only the morbid species which the clinical observer ought to recognize, but this first obligation fulfilled, he ought to seek out the peculiarities of the individual case which he has before his eyes; he ought to seize the analogy with, and the differences from the type of the species, and to draw from these particular characteristics, the reasons for his prognosis, and the indications for his treatment.

On the other hand, and this is here the second principle which ought to direct our studies, the peculiarity of which is to oppose to the fixity of the pathological species, the infinite varieties of the individual maladies, the clinique has a double character, by which it is at once a science and an art. As a science, it borrows from all the branches of medical knowledge; it makes, it ought to make, successively an appeal to anatomy, to physiology, to pathology and to experimental therapeutics; even breaking through the limits of the medical circle, it demands of the physical and natural sciences, the assistance which it cannot slight. As an art, it may be defined the art of examining the sick, and appreciating their condition in the triple point of view of diagnosis, prognosis, and treatment. Hence gentlemen, for clinical teaching, there is a double obligation, which to fail in, is to be incomplete, to miss the end aimed at. The lessons in which are exposed the particular history of patients, for eliminating and exhibiting the most important traits, have a real utility, and certainly it is not I who would contest

them; but I would say to you in all frankness, that that is not sufficient. Listen for years, to lessons of this kind, and I mean lessons as perfect as you can suppose them to be; well, after this time you will certainly be very well instructed, but you will no more be practitioners than on the first day. The reason is, that, in an instruction thus limited, the pupil is reduced to the role of the spectator; he sees the master draw from his theoretical knowledge the means of facing the difficulties of every new case; he sees him by the science and experience acquired, solve the problem which every patient presents to the sagacity of the physician; but the method, and the intellectual work by which the problem is resolved, escapes him completely, because he has never himself experienced the same difficulties. In a word, he sees well the practice of the medical art, but he is not accustomed to practicing it himself; he sees work done, but he does nothing.

Then, the art of examining patients, of fixing and appreciating the symptoms which they present, is a thing entirely personal. This examination is subjected to precise rules it is true, but the knowledge of these rules, which is of absolute necessity, will not however suffice: it is necessary to operate one's self; it is necessary, permit me this expression, it is necessary to handle and rehandle a great nnmber of patients; and come thus by a daily exercise, not only to seize the diagnosis and prognosis, but in addition, to formulate the treatment in all its details. Think, gentlemen, if you neglect this practical education, you will assume with insufficient weapons, and not without peril to the patient, the terrible responsibility of the practice, for your first client will be, to speak truth, your first patient. Do not expose yourselves in the lightness of your hearts to a danger of this kind; do not content yourselves here with the role of auditors, but impose upon yourselves the obligation of

daily examining some patients; you will find me always ready to aid you—to guide you in these studies—and your active and constant interposition will be a powerful guaranty of the success of our teaching. With this understanding, it will become for you a real utility despite the insufficiency of my means; and for me, it will lose a great part of its difficulties, because it will establish between us the must solid and sympathetic ot bonds; those which result from a community ol interests, and the communion of intelligencies.

This said, we enter into the matter.

We have in our wards many patients suffering from pneumonia, and this coincidence offers us a very favorable occasion to study the malady, which I am not willing to let escape. Not considering the condition ot health in which these individuals have contracted their pulmonary inflamation, not to consider the characters of the lesion, and the march ol the accidents, the pneumonia has been regular with our four patients; but if, laying aside these elements of consideration, we view alone the impression produced by the phlegmasia in these four dissimilar organisms, we will be led to divide them into two groups, and to recognize that the disease frank and common in two cases, has been manifestly adynamic in the two others. As with the two first patients you have been able to follow the natural march of pneumonia, disengaged from all medication, the two others permit me to study with you the general principles of treatment of this phlegmasia, and I hope to show you that a more exact physiological interpretation of the symptoms, and the most rigorous observation of the evolution of the malady, have given to the indications a certitude and a precision which puts them beyond the pernicious influence of flunctuations of doctrine, at the same time that it substracts them from the no less deplorable routine, born of exclusiveness or prejudice.

Our first patient, lying in St. Charles Ward No. 12, is a man of 63 yearsof age, of robust constitution and habitually good health. The day of his entrance, he presented to our observation an aggregation of phenomena, which were clearly marked, an appreciation of which, conducted, without possible deviation, to the end, that is to say to a diagnosis. Let me recall to you, in a few words, the different phases of this intellectual labor: the steps of clinical judgment are the same for all the facts of this kind, and by reason of its simplicity, the case of this man is the best type which I can present you.

At the time, the patient had high respiration, frequent, and a little painful; his countenance attracted attention by the mixture of two colors, so to say, in concentric zones: at the circumference of the jaws, upon the forehead, the eyes and around the mouth there was a light, though plainly marked yellowish effusion; upon the cheeks and central portions of the jaws, there was a lively red, more heightened by the contrast with the abnormal tint, by which as it were, it was surrounded. The aspect, and the mode of respiration already awakened the idea of an acute disease of the pulmonary apparatus, and the first information furnished by the patient, gave certainty to the presumption. Taking cold some two weeks since, this man has suffered much more for the last two days; he has had a violent chill, a pain in the sub-mammary region on the left side of the chest, and he has been compelled to take his bed. At the same time, we can perceive that his skin is warm; the pulse full, compressible and very strong, regular and of the moderate frequency of 92.

Such an aggregation of symptoms, limits rigorously the diagnosis to three alternatives: We have either a pleurisy, a pneumonia, or a pleuro-pneumonia. The violence of the chill is unique; the yellowish suffusion and injection of the face, the compressibility and volume

of the pulse, do not favor the idea of an inflammation of the pleura alone; besides a glance at the sputa of the patient, demonstrates the existence of an inflammation of the lung itself, for the expectoration is composed of spittle which is not rusty-colored it is true, but yellowish, viscid, transparent and adherent to the vessel. It cannot then be a question of simple pleurisy, and before any examination of the chest, we were able to conclude, without any hesitation, that our man was affected with either pneumonia or pleuro-pneumonia. Arrived at this point, the diagnosis could not be completed except by the direct exploration of the lung by means of percussion, palpation and auscultation.

Normal on the right side, the thoracic resonance was abolished on the left, in the inferior front, lateral and posterior regions; at these points, the dulness was absolute, the loss of elasticity under the finger was almost complete, and these results of percussion, while entirely favorable to the supposition of the -existence of a pleuro-pneumonia, made it at the same time difficult to admit the existence of a pulmonary inflammation uncomplicated with pleurisy. But an examination of the thoracic vibrations by palpation, showed everywhere, the absence of any evident effusion. You know, gentlemen, in what this sign consists, and that its value, many times contested, has been definitely established, by the remarkable researches of Professor Monneret. In our man, not only were the vocal vibrations on the left side, on a level with the dull regions preserved, but they were evidently as strong as upon the right; and as in the normal state, the vibratory fremitus is more marked upon the right than the left side, this bilateral equality denotes a pathological increase in the intensity of the thoracic vibrations on the side affected. To sum up, the pleura may probably be inflamed as the lung is, a coincidence which is the rule in

all the superficial pneumonias; but this secondary inflammatory determination, has not certainly produced any evident effusion.

On the right side of the chest, and in the anterior region of the left side, auscultation reveals some large humid râles, vestiges of the bronchitis which had preceded the inflammation of the lung; on the left, there can be perceived on a level with the dulness, a bronchial or tubular souffle, of a remarkable intensity and violence, and in all the points occupied by the souffle, the voice presents an inarticulate resonance, which is known under the name of broncophony. At the periphery of the breathing zone, and notably towards its superior limit, we can perceive certain fine râles, very different from the large bronchial râles disseminated over the right lung; these are composed of very minute bubbles; only appearing during inspiration, they then sound in puffs beneath the ear; this, in a word, is the crepitant râle.

We have then to do with a pneumonia occupying the inferior lobe of the left lung, and this pneumonia the dèbut of which was indicated by a chill, developed itself on the evening of the second day. In the points where the souffle and broncophony exist, hepatisation is perfect, that is to say, the fibrinous exudàtion which occupies the pulmonary vesicles, is completely solidified, so as to transform the tissue into a dense mass, compact and homogeneous: hence the impermeability of the parenchyma to air, and the dulness; hence the consonance of the indurated mass, with the sounds which traverse the bronchi; hence the increase of these sounds, and the origin of the bronchial souffle and broncophony. In the points where you perceive the crepitant râle, the lesion is more recent, less advanced; the fibrinous exudation is yet liquid, the obstacle to the entrance of the air, is not complete, and the fine and dry bullæ of the crepitant

ronchus result, either through the passage of bubbles of air through a viscid and dense liquor, or rather from the sudden and noisy movement of the opposite walls of the vesicles, agglutinated by the fibrinous exudation, not yet coagulated. As for the expectoration, called pneumonic it is nothing more than a portion of the inflammatory exudation which occupies the terminal bronchial ramifications, and the pulmonary alveoli, hence its viscosity and the difficulty of expelling it; hence its adhesion to the vessel, since the liquid which forms it, adheres in the lung to the walls which circumscribe it, and if it presents all the intermediary colors, between the straw-yellow and reddish black, it is because the pulmonary exudation is itself of variable color, according to the proportion of blood with which it is combined.

You can now comprehend, why this expectoration is pathognomonic, why a single expectoration of this kind, well marked, permits an affirmation of the existence of pneumonia, when even the lesion by reason of its seat is concealed from our means of exploration.

The connection which I am establishing between the lesions and the symptoms of pneumonia, presents as you will yourselves observe, a clearness almost mathematical and of a very satisfactory character. You will not arrive at such precision in all diseases, but you should not forget that the attempt should always be made, for even where it succeeds imperfectly, it furnishes for the interpretation of the morbid phenomena, and the practice of the art, valuable aids, which you will seek in vain from any other method of study.

Despite the intensity of the local symptoms, our patient supports his pneumonia bravely; the febrile reaction is moderate, the temperature does not now (on the evening of the third day) exceed 39 degrees and 6-tenths (centegrade); he has no headache nor restlessness at night, the

impulse of the heart is of moderate force; the liver, notwithstanding the sub-icteric hue of countenance, presents neither appreciable turgescence nor sensibility to pressure. On the other side, this man was habitually in good health; his sober habits, reassure us against the possibility of those cerebral accidents so common in the pneumonia of *drinkers*. In brief, it was evident that we had here one of those pneumonias which will cure themselves most admirably, and everything having been well considered, I resolved without any uneasiness of mind, from completely refraining from medication, which was to my eyes, the most opportune of treatments.

On the morrow after his entrance into the hospital, the fourth day of his sickness, this man was in the same state, as in the evening, but on the fifth day, the fever had completely fallen, and the pneumonic lesion was in full resolution. The breathing, but lately uniform and continuously of the same character, has already become disconnected, and the returning crepitant râles are perceptible twice during each respiration; the pulmonic block, so compact and homogeneous some hours before, seems to slit and crack in all its parts, under the invading action of a liquid. Indeed, from this point in the pneumonia, the coagulated inflammatory exudate, is liquified anew, and transformed into a thick liquid, opaque, without viscosity, and having a mucous or muco-purulent appearance; then, as those points where this regressive metamorphosis is accomplished became accessible to the air, the crepitant *râle redux*, succeeding the souffle, reveals faithfully the return of the permeability in the pulmonary parenchyma. Then, as you foresee, the expectoration, which is one of the ways of elimination of the liquified exudate, changes its character; the expectorated matters lose their viscosity and their transparence; they are opaque, little or not at all adherent and

mixed with a variable proportion of bronchial liquid; they no longer contain blood, but purulent corpuscles, granules, and a great quantity of young cells in process more or less advanced of fatty transformation. In proportion as the liquefaction is accomplished, and the resorption and expectoration of the liquefied products is effected, the râles lose their crepitant character; they become larger, less numerous, and after a variable time totally disappear, to give way for the normal respiratory murmur, the return of which indicates the restitution to integrity of the pulmonary parenchyma. During this period of reparation, the dullness diminishes *pari passu* with the impermeability of the lung, but oftentimes a very long interval exists, before the sound resumes altogether its physiological character.

It is precisely thus, that things have passed with our man. The resolution of his pneumonia commenced on the fifth day, and the fall of the fever, and the physical signs, demonstrated the liquefaction of the exudation to have proceeded rapidly up to the 7th day; but from this time there was an arrest, and we found ourselves in the presence of a situation very frequently encountered in practice, and which it behooves us to understand well. The pneumonia was in process of resolution for two days, the general condition of the patient permitted us positively to consider him as cured: but all amelioration in the local phenomena had ceased; the inflammatory products completely liquefied encumbered the lungs, and one day with another, we could not demonstrate any progress in the elimination. This was no longer the malady, but the effect of the disease which was continuing; and this effect ought to be combatted, since everything else going well, the respiratory act remained mechanically obstructed. I repeat to you, gentlemen, you will frequently observe similar retardations

in the reparation of pneumonia. This is not very alarming, when the lesion has been very limited; but be upon your guard when the hepatization has been very extensive, and especially when it has been bilateral, the encumberment of the lungs by the liquefied exudate may bring about asphyxia, and then you will have the pain of seeing a patient whom you have thought out of danger, to die during his convalescence. In the present case, in view of the very limited localization of the pneumonia, we had no fears of such a termination. However, when on the tenth day we found things in the same state as upon the seventh, when we had established the persistence of subcrepitant râles in the left lung, we were decided upon intervening, and administered ipecacuanha in emetic doses. In such conditions, this is the means *par excellence*, and this time also, it responded to my expectations: on the morrow, the lungs were in great part freed. the râles less numerous and the bullæ larger, and the patient himself declared to us that his respiration was much more free. With him, however, so slow were his organic operations, that two days afterwards he was still in the same state, as the day after his vomit. The reparation was almost accomplished, the slight dulness however left, and subcrepitant râles showed something to be desired; and despite the complaints of this man who loudly demanded his dismission, we had a flying blister applied, following which, we had the satisfaction of proving the complete restitution to the normal state.

In our man, the tardiness of reparation could not be attributed to any appreciable cause; but in a good number of cases, it results from the natural or acquired debility of the patient: under these circumstances, emetics and revulsives are still about your best means of action; but you ought to favor their effects by a tonic medication, of which quinia and wine are the most pow-

erful agents. It is to be taken for granted, that with an individual profoundly debilitated, it is necessary to stop with the employment of revulsives and tonics, laying completely aside evacuants, the action of which, on such an occasion, cannot be otherwise than hurtful.

Such has been this pneumonia, which, without any therapeutic intervention, entered spontaneously upon resolution at the fifth day, and which presented this peculiarity, which is besides very common, that the period of reparation exceeded in duration the febrile period of the malady, and which demanded a special medication.

Among the number of striking symptoms which this case has presented us, I have pointed out the frequency of respiration, and an icteric suffusion of the face: it is important that you should have clear conceptions regarding these pathogenetic conditions and phenomena, for such notions are indispensable to the proper appreciation of certain therapeutical methods.

Pneumonic dyspnœa is far from recognizing as its only cause the physical modifications which the pulmonary parenchyma undergoes. This explanation, which is the one generally adopted, is much too exclusive. I am far from denying the influence of these mechanical conditions; but it is not they alone which act, and except in the case of double pneumonia, in my mind, it is not to those that the preponderating influence belongs. In fact this acceleration and shortness of respiration, which constitutes the dyspnœa of pneumonia, is connected with a variety of causes. There is at first the inflammatory congestion, and the consecutive exudation which mechanically diminishes the field of hæmatosis; following this is the hyperæmia and collateral œdema, often considerable, which developes, around the inflamed points, a condition which produces upon the circulation, and consequently upon the æration of blood, an action identical with the

preceding. There is finally, in certain cases, the thoracic pain, which obliges the patient to voluntarily diminish the fullness of the respiratory movement. Here are three purely mechanical conditions, the effects of which are combined, and have for their final result—what?—The diminution of the proportion of the oxygen in the blood, and an increase of the quantity of carbonic acid. These mechanical conditions concur powerfully, I say again, in the production of dyspnœa. But mark, gentlemen, if these were the only acting causes, the pain and the frequency of the respiration would always be proportionate to the extent of the pulmonary lesion; when, for a long time, observation has taught us what we have to expect in this respect. One sees cases of pnuemonia, the respiration in which is scarcely troubled, although the inflammation occupies a great part of one lung; you will see others again with a hepatization occupying the surface of a hand's breadth tormented with an intense dyspnœa. Of necessity then, there are other influences brought into play. What are they? We have now to see.

The mechanical causes precedingly enumerated, have the effect of diminishing the proportion of oxygen entering the blood. Very well, the composition of this liquid is such, that the malady created, it acts directly in the same way. A considerable increase of the fibrin, has as its consequence, a relative diminution of the red globules, which you doubtless know are the bearers of oxygen to the inmost tissues; hence a relative diminution of this gas to the total quantity of blood in the circulation. This productive cause of dyspnœa, which has been pointed out by Dietl, ought never to be lost sight of. This is not all yet.

Whilst all concurs to diminish the transportation of oxygen, the expenditure of it is considerably augmented, because of the fever, the constant characteristic of which,

is an abnormal superactivity of organic combustion (or tissue waste). The more intense the fever, the more active the combustion, the greater is the consumption of the oxygen. Therefore you see the pneumonic dyspnœa to be constantly proportionate to the activity of the febrile movement, whilst it is far from always being in keeping with the extent of the lesion. To resume, gentlemen, the abnormal conditions created in the organism by the inflammation of the lung, have for an effect, the restaining of the introduction of the oxygen, and an increase of its expenditure; the consequence finally is a notable diminution of the proportion of this gas in the blood, and the surchargement proportionately of carbonic acid. Consider now the physiological mechanism of the respiratory act; recall to mind that the blood poor in oxygen, and rich in carbonic acid, exercises upon the motor centre of the respiratory apparatus, that is to say upon the *medulla oblongata*, an exaggerated excitation which has for its constant and fatal effect, the acceleration of the respiratory movement; think finally, that the fullness of these movements is always in an inverse ratio to their number, and you will have a clear conception of the conditions and pathogenetic mechanism of dyspnœa in pneumonia; you will comprehend also why the respiration, even when it does not merit the appellation dyspnœa, is always shorter and more frequent than in the state of health.

As for the yellowish discoloration of the face, which is so frequent in pneumonia, and which varies from the light suffusion which you have seen in our patient, to the full tint of jaundice, it is far from always having the same signification or the same origin, although the hue may always be due to the presence in the blood of a certain quantity of the coloring matter of the bile.

In a great number of cases—and the fact is you have

an example of it—the sub-icteric effusion has an origin altogether mechanical: the hepatization, that is to say, impermeability of a portion of the lung, causes as a consequence, a more or less considerable trouble in the pulmonary circulation; the tension increases in the pulmonary artery from the obstacle situated in the lung, and this effect makes itself more and more perceptible on the right side of the heart, then upon the inferior vena cava and the sub-hepatic veins. It establishes in this way a certain degree of congestion in the venous radicles; the biliary ducts at their origin undergo a slight compression, and this disturbance in the diffusion and normal circulation of the bile causes a small proportion of the pigmentary matter to pass into the blood, and hence emanates the yellow coloration, more or less marked of the skin. This essentially transitory phenomenon is of no gravity, and furnishes no indication for any particular therapeutic administration.

Under other circumstances, one observes with the pneumonia, all the symptoms of a gastro-duodenal catarrh, of which the icteric or sub-icteric tint is the direct phenomenal expression. It is to this morbid complexion that I attach the form of pneumonia described under the name bilious pneumonia. Contrary to the preceding case, therapeusis intervenes here with incontestable utility, in the shape of evacuants, and more especially emetics.

Finally, in some cases, though happily very rare, the jaundice, still more marked, is connected with a diffuse hepatitis; it is in that case one of the varieties of severe icterus, and the hepatic complication makes all the danger of a situation, from which ordinarily you are powerless to remove the peril.

The patient whose case we have come to study has presented you a beautiful example of the natural march of pneumonia. Now, gentlemen, it is not long since

science determined the natural evolution of the disease abandoned to itself, and the subject merits stopping a little, while I attract your serious attention to these new contributions.

For ages pneumonia was considered a disease which it was necessary to attack vigorously from the beginning by an energetic treatment; and those same physicians who religiously respected the operations of nature in variola or such other eruptive fever, thought it a duty to direct against an inflammation of the lung, the most powerful and consequently the most dangerous arms of therapeutics. A strange inconsistency, a singular blindness, which was inspired by the generic name of the malady. It is an inflammation, therefore one cannot too soon put it out.

It was fifteen or twenty years ago, that Balfour, in England, and Dietl, in Germany, braving the accusation of homicide by omission, which it is just to say had never frightened Hahnemann, had the courage to abandon pneumonia to itself; they scrupulously observed its progress, and they have shown that it can cure itself.

This was already much, for this capital notion has been the origin of a profound revolution in therapeutics; but it does not stop here. Applying to pneumonia one of the most rigorous methods of study which our science possesses, these untiring observers have submitted the march of this disease to a mathematical computation, and the result of their persevering efforts is the establishment of this truth, no longer assailable: frank pneumonia is embraced in a cycle clearly defined; and, while less fixed than that of variola for example, the pneumonic cycle is nevertheless submitted to precise laws, a knowledge of which is to-day complete.

These are the laws which I wish to expose to you. Certain propositions will suffice me for this; but do not

forget that these conclusions repose on thousands of observations, and that they are the result of researches pursued during more than fifteen years by eminent observers of different countries. In the first rank among this brilliant constellation, it is but justice to recall the names of Bærensprung and Traube (of Berlin), and Wünderlich and Thomas (of Leipsic).

It is by the fever that the march of pneumonia is appreciated, and it is by thermometrical exploration that the febrile movement is measured, even to its slightest oscillations. The initial chill, which always coincides with a notable elevation of temperature, marks the début of the disease: the definite fall of the thermometer to the normal number, or beneath that number, indicates the termination of the morbid cycle. To-day, now that science is clear upon different elements of this problem, it is sufficient for the ordinary wants of the clinic to make two thermometrical observations in a day: one in the morning between 7 and 9 o'clock, the other in the evening from 5 to 7 o'clock. But the physicians who inaugurated these researches imposed upon themselves a much more weighty task, and in the works of those observers, whose names I cited you just a moment ago, you will find grouped cases in which the thermoscopic exploration was repeated from four to six times daily, and even more. Such a severity in observation is very proper to inspire entire confidence in the results obtained. The temperature is taken in the axilla, and I expressly recommend you to observe the two following precautions, which you have seen me constantly observe myself. I leave the themometer in place during twenty minutes, in order to be certain of reading a fixed point: then, as one has not always a thermometer of fixed standard, and the necessity for a correction for each measurement would complicate the method to such a degree as to render it

impracticable, I make it a rule to always use the same thermometer in the same case: as it is most important of all to appreciate the march of the temperature, that is to say, the relative quantities, and not indeed the absolute quantities, you will comprehend that this precaution excludes every grave error resulting from the imperfection of the instrument. Finally when the observation is completed, it is easy to report upon paper divided *ad hoc*, the numerical results furnished by the exploration; and if then one will unite by a broken line the points of the variable level, which express the double daily oscillations of the thermometer, there is obtained a curve, which is a true and graphic respresentation of the disease, and which permits the taking in at a glance all the peculiarities of its evolution. Such besides is the uniformity, I ought to say, speciality of the thermometric lines of the same morbid species, that for pneumonia, and some other febrile maladies, a physician habituated to this kind of study can recognize by a simple examination of a complete curvature the disease which has furnished it. These premises laid down, we come to the facts.

In uncomplicated pneumonia abandoned to its natural course, the temperature presents three periods—ascension, acmê, and decline; each of these periods is characteristic. That which characterizes the ascending stadium is the rapidity of elevation of the temperature, so that generally at the end of the second day, the maximum number has already been attained; furthermore, this ascension is nearly continuous. As in every febrile malady, there is a remission in the morning; but, whilst the thermometer marks seven tenths of a degree less than on the evening preceding, it reveals a considerable increase on the morning preceding. You know how rare it is in hospital practice to observe diseases from

their beginning: if you think of the brevity of the ascensional period in pneumonia, you will easily comprehend how the observations may be much less for this stadium, than the succeeding.

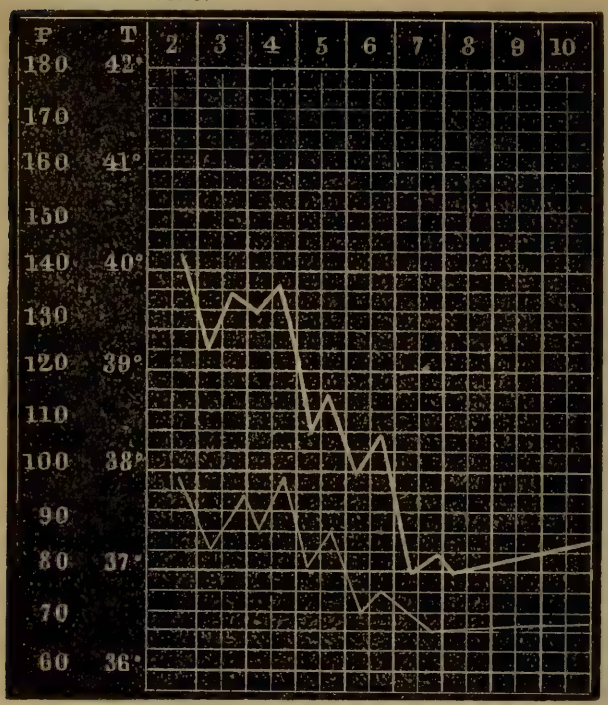
Nevertheless, science is in possession of a certain number, the similarity of which suffices to justify the preceding propositions, and I can cite you certain numbers, which will enable you clearly to seize the characteristic rapidity of the elevation of temperature from the beginning of the pneumonia. In a patient observed four hours after the initial chill, Liemssen found already 39.° 2, and eight hours later, that is to say, twelve hours from the inception of the malady, the thermometer numbered up to 40°. 2. Nine hours after the invasion, Thomas found a temperature of 40° 5, and in another case he observed it at the twenty-third hour, 40° 6. In a third patient, he obtained on the morning of the second day, 41° 2., and for eight other individuals, the numbers for the second half of the second day were embraced between 39° 1. 40° 2.

Now as in pneumonia the elevation of temperature does not always attain 40° ( ) and the maximum observed to the present oscillate between 40° 8. and 41° 2., you see that the preceding numbers indicate clearly my assertion of a little while ago, to-wit, that the ascencional stadium rarely passes beyond the close of the second day and generally at that moment, (forty-eight hours after the initial chill), the thermometrical maximum is attained. Then commences the acmê, or period of its heighth.

The temperature maintains itself near the preceding number, and offers in its oscillations many interesting peculiarities. The fever is not purely continuous, and the extremely precise researches of Thomas, have apprised us that this fever, having the appearance of being

LEFT PNEUMONIA, a man 63 years old. Beginning of defervescence on the morning of the 5th day.
M. S.

Fig. 1.

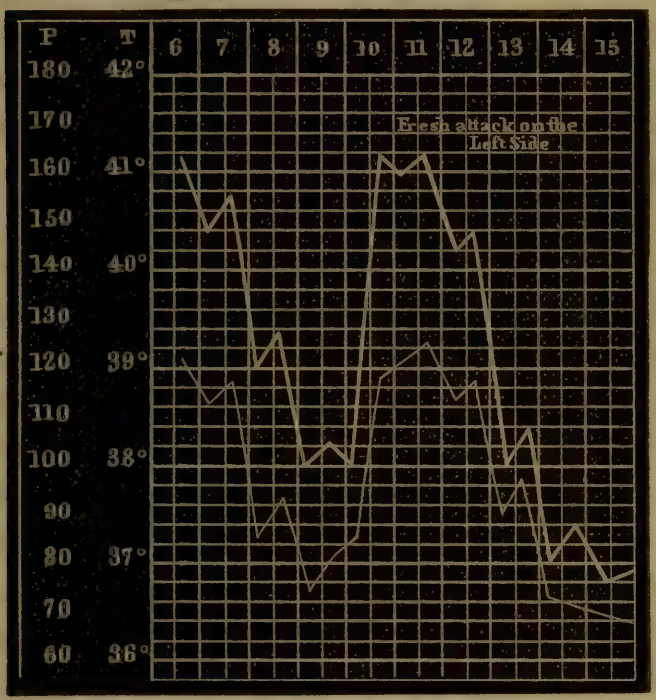


LEFT PNEUMONIA, a woman aged 32 years. Beginning of defervescence on the morning of the 6th day.
M. S.

Fig. 2.

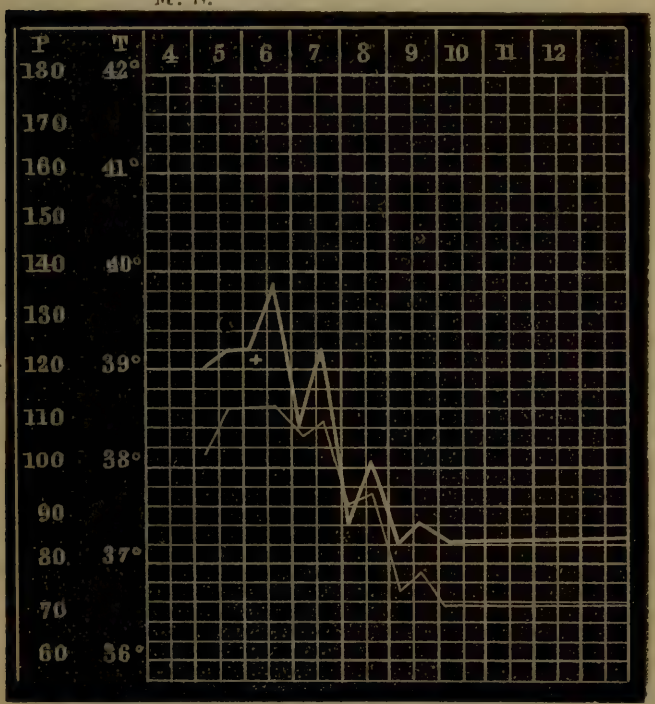
RIGHT PNEUMONIA, a man aged 19 years. Beginning of defervescence on the morning of the 8th day.
M. S.

Fig. 3.



RIGHT PNEUMONIA, a woman aged 38 years. Beginning of defervescence on the morning of the 7th day.
M. S.

Fig. 4.



† Beginning of the alcoholic medication.

continuous, enters always in reality into one of the four following types: 1. The fever is sub-continuous, the daily variations of temperature are expressed by 2 or 3 tenths of a degree: this type is the rarest and only shows itself durlng a day or two. 2. The remissions are embraced between 0°, 5° and 1°; the fever is sub-remittent; this is the most frequent form. 3. The oscillations going beyond 1°. 2; this fever is frankly remittent. 4. Finally in some cases as rare as those of the first type, the fever offers a character almost frankly intermittent.

The four patients, the curvatures of whose temperatures I will place before your eyes at our next meeting, were not observed until the after ascensional stadium, and in all the four, the period of the acmê, presented the sub-remittent type.

After this period the duration of which varies from one to seven days, comes the decline, which as a final result, brings the temperature to the physiological level. This moment corresponds to the *crisis* of the ancient observers; it is generally designated since the works of Traube, under the name *defervescence*, a felicitous expression worthy of preservation, for it translates to a marvel by the imagery expressed in the word, the totality of the modifications which the organism then experiences.

The mode of defervescence, is without contradiction the thing which is most characteristic in the thermometrical history of pneumonia. You have left your patient with the temperature proper to the period of the acmê; the fever was at its heighth. You return twelve hours later, and you perceive it may have already passed 1°. 6 or even more. Dating from this moment, the heat goes on diminishing, with scarcely an evening exacerbation, and in forty-eight hours or more, you have the normal temperature, the fever has terminated, the pneumonic cycle is complete. Thus rapidlty and continuity are here, the

characteristics of the defervescence; but under certain circumstances it is not thus, and two phenomena become possible, which although opposite, have the same signification: the two announce the same critical stadium. This is sometimes a sudden elevation from the temperature, which exceeds many tenths of a degree the vesperal exacerbations of the preceding days; this phenomenon corresponds exactly to the *perturbatio critica* of the ancients. There is also, on the contrary, a remission, much more considerable than those which have been observed during the period of the acmê. In the two cases, I repeat it, one can announce the end of the acmê, and the commencement of the decline.

The moment of defervescence, varies within extensive limits in various cases; but the comparison of a great number of facts permits me to formulate the following conclusions, which are not far from those of Professors Wünderlich and Thomas. In a fifth of the cases, the commencement of the crisis is embraced between the third and fifth day inclusive; in three-fifths it falls between the fifth and seventh inclusively, in the last fifth it takes place after the seventh, and then generally from the seventh to the ninth. With the patient of whom I have spoken to you, the defervescence commenced on the fifth day in the morning, in our three other pneumonias, the epoch of its début is expressed thus: sixth day in the evening, once; seventh day in the morning, once; eighth day in the morning, once. These numbers show you how much to think of the pretended connection of crisis and odd days: in our four patients, the crisis did not manifest itself but twice on the classic day. Such a proportion is purely fictitious. I know very well, that the infinitely numerous observations of the physicians of Leipsic, those of Griesinger and Lebert, show positively, that the defervescence in pneumonia takes

place almost equally upon the eve and odd days; there is a little difference in favor of the last, but it is so small, that in all conscience it cannot be attributed to anything but chance. Thomas who has carried into these researches a precision and a patience which has not been equalled, has demonstrated besides, that the début of the crisis takes place indifferently during the first and the second half of the day.

There is observed sometimes in the course of pneumonia, a false defervescence, concerning the possibility of which, it is well to be forewarned, in order to avoid an error in prognosis. Without any therapeutic action, without unusual pathological phenomena, the thermometer is lowered, and this fall, like that of the true defervescence, goes much beyond the daily remissions of the preceding days. Things go thus for some hours, ten or twelve generally; then the temperature lifts itself to its former level, if it does not surpass it. It is remarked, that this illusory defervescence, or false crisis, is not accompanied by any amelioration in the state of the patient.

With the true defervescenee, three considerable phenomena always coincide. The fibrinous exudate in the lung commences to liquefy, and the returning permeability of the organ, is revealed by the humid râles and bullæ more or less fine, called *râles de retour*. The patient ceases to emaciate. During the periods of ascension and the acmê, obliged to live at the expense of himself, the expenditure of combustion or the exaggerated consumption which appertains to every fever, he has lost each day, a part of his weight: an observation of Wachsmuth teaches us, that this loss at the moment of the acmê can attain a killogramme (2 lbs. 2 oz. avo.) for the 24 hours; but from the establishment of the defervescence, the waste ceases with a rapidity truly extraordinary, and if the patient takes some aliment, he commences thereupon to

regain a part of what he lost. The patient of Wachsmuth, of whom I tell you, exhibited a loss in weight of 718 grammes the evening of the début of the defervescence; the same day of the commencement of the fall of the thermometer, he did not lose more than 57 grammes, and on the morrow, when he had been lightly nourished since the evening, the young man had already gained 200 grammes. The practical importance of these facts in the government of patients, after the appearance of defervescence, speaks for itself.

Finally, the urine, a mathematical expression of the balance of the organism, undergoes from the beginning of the crisis, a series of modifications, which express rapidly its physiological qualities. The excretion of urea, which during the period of the acmê is ordinarily increased, despite the diet, to 35, 40 and 50 grammes per day, and which can even attain the collossal number of 68, 70 and 81 grammes, as certain observations of Metzger, Vogel and Parkes prove; the excretion of urea, I say, relapses in 48 hours to the normal mean, which carries, as you know, from 28 to 32 grammes. The production of uric acid, is increased to 80 centigrammes, and even a gramme a day; it, in the same interval, falls to 50 or 55 centigrammes, a weight which expresses the medium for the healthy state. The chlorides in turn, which have notably diminished from the stadium of ascension, and which during the acmê fall frequently to a gramme, or some centigrammes, or even to nothing, reäppear in the urine from the commencement of defervescence, and they show then a greater abundance than in the physiological state.* In effect, the chlorides of the urine, es-

* It is worthy of remark, that Parkes and Roberts assert, that the disappearance or reäppearance of the chlorides in the urine in pneumonia, should not have the significance usually attached to them. They consider their presence or absence of little significance.—[Ed.

timated in chloride of sodium, have a medinm proportion of 11½ grammes for 48 hours, and in the defervescence of pneumonia they comprise 15 to 25 grammes. This augmentation of the chlorides is always a little slower, than the beginning of the fall of quantity of the urea. During the time that these changes are being produced, in consequence of the cessation of the febrile combustion, the total quantity of urine secreted in 48 hours, returns to its normal standard, beneath which it had fallen, and the density strongly increased during the acmê, falls again to the standard of health.

You see, gentlemen, the admirable connection between the phenomena of defervescence, and how they are all the necessary physiological result of the fall of the fever, which marks the close of the pneumonic cycle.

You can comprehend now, why I did nothing to our patient. We know, in the first place, that pneumonia can cure itself: now the exact knowledge which we to-day possess, of the natural progress of the malady, permits us to appreciate with a vigorous precision, the evolution of each particular case, and to compare it day by day, with the normal type: consequently, when this comparison does not show in the patient, any deviation from the regular type, there exists no plausible reason for intervening and troubling, under the pretext of directing a natural operation which proceeds very well by itself. This conduct is besides more legitimate, and the more necessary, in that pneumonia presents no constant specific indication based upon the course, the nature of the affection or the lesion; the indications and reasons for action cannot be sought for, except in the peculiar conditions of the individual, and in the effects produced upon him by the disease, that is to say, in the symptoms. When the individual conditions are favorable, when the symptoms embraced within proper limits, run regularly and norm-

ally the diverse phases of their evolution, the only rational indication is, to do nothing and patiently await the natural defervescence of the phlegmasia.

Such have been precisely the circumstances in which our patient presented himself to our observation. The fever, which is sometimes itself the sole formal indication for acting, was moderate; the temperature, the extra-elevation of which is of itself an indication of imminent danger, did not pass beyond 40 degrees; dyspnœa existed, but was not excessive; the beatings of the heart and pulse had a satisfactory force; the phenomena of asphyxia were not present, the cerebral accidents were absent, and there was no source of fear from any of the developments. Finally, the anterior and actually existing conditions of the patient, were reassuring. I had nothing to do, I did nothing, and the end justified my abstinence.

This course is the one you ought to pursue in all analogous cases. But be careful, gentlemen, and guard against falling into a condemnable exaggeration; take care that you do not transform my limited counsel into an absolute proposition; in many cases, to abstain would be a fault: by reason of the sources which I have assigned to the indication, it is easy to foresee that these are eminently variable. Finally, do not forget that there exist pneumonic patients, and not pneumonias, and you ought never to confound rational therapeutic reserve, with its opposite, inertia.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

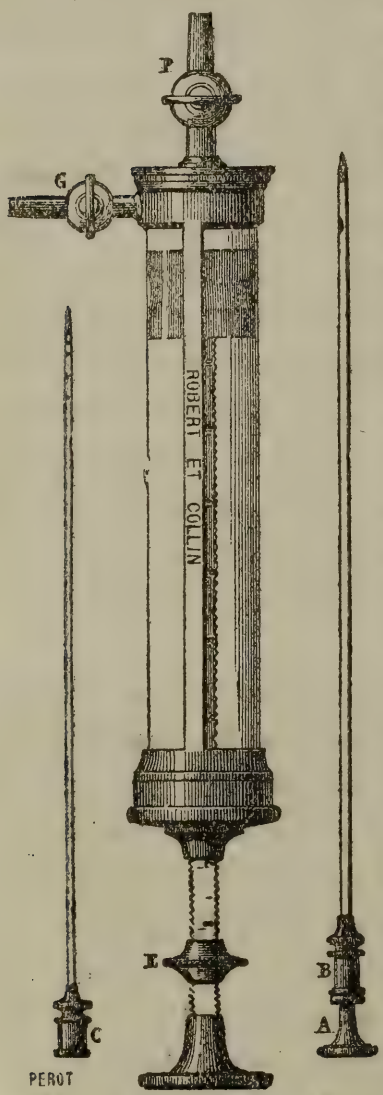
PARIS, December, 1869.

I send you, with a "cut," the descriptive text of the subcutaneous aspirator or syringe of Dr. G. Dieulafoy. This instrument is regarded, as ingenious and useful. The subcutaneous aspirator seem to me fulfill two principal conditions: First, as a means of diagnosis; and, secondly, as a means of treatment. Every one knows how difficult it is, at times, to detect the presence of a purulent collection hidden under the muscles and the aponeurosis, about such regions as the buttocks, the neck, the iliac fossæ, etc., or situated in the depths of organs such as the liver or the kidneys. The observer is undecided as to the presence and nature of a fluid which does not manifest itself for sometime, either by decided tumefaction, or by fluctuation. It is true that fever and pain are the symptoms which ought to ensure proper diagnosis, but, how is one to tell, with certainty, the existence and the position of such a collection; how shall he know whether surgical intervention is *useful, urgent or injurious?*

It was for the purpose of elucidating these difficult questions, which are so often presented in practice, that the exploring trocar was first thought of; but this instrument, far from fulfilling its promise, seems to have failed in its object. It does not sustain the claims made for it by its originator; it carries with it its own condemnation, for it is at once too large and too small. Its calibre is voluminous, when it is compared to those fine needles which are used for subcutaneous injections, and one will see how little it merits the name of *capillary*, which has been given to it; and, notwithstanding, its

relatively large diameter, it opposes very often the flow of liquids, either when these are thick, or when the canal is not quite clear.

It is to remedy these inconveniences, that it has seemed best to Dr. Dieulafoy to construct a long canular-trocar of a volume so small that the most delicate organs may be traversed by it, without causing more inconvenience than does the needle in acupuncture, the harmlessness of which is familiar to every one.



This canula-trocar, furnished with two small openings at its extremity, is introduced, in search of the supposed liquid; it is easy then to make a vacuum by means of the piston of the syringe, when the operator is immediately enlightened as to the presence, the position and the nature of the collection. The location, or seat, of the abscess is determined by the direction and the depth of the canula; then microscopic examination reveals the nature of the fluid. This means of exploration is also applicable to cysts, to serous, hæmatic, purulent, or urinous collections.

Having spoken of the *subcutaneous aspirator* as a means of exploration, it will now be well to regard it as a means of treatment. One can, by the aid of this instrument diagnosticate articular effusions, without the slightest danger of introducing a single bubble of air, and without fear that

even the smallest wound may entail the accident of traumatic trouble. Would not an analogous treatment be applicable to the accidental effusions in the pericardium? Experience will show whether this process be not preferable to the paracentesis of the pericardium, an operation which is difficult and full of danger. We can detect by the aspirator urine in cases of retention; effusion in cases of hydrothorax; pus in cases of abscess, etc. The flow of the liquid may be continuously secured by two spigots, alternately opened and shut, and situated, both, at the extremity of the syringe.

If the injection of any liquid whatsoever, (tincture of iodine or alcohol, etc.) is judged necessary, this may be done without removing the instrument.

The subcutaneous aspirator is still further designed to remove the gases which accumulate in such large quantities, during intestinal obstructions, and which become, under some circumstances, one of the obstacles to the reduction of certain hernias. Finally, the same process is efficient in case of blood tumors and extravasations, etc.; provided that the needle be plunged directly into vein or artery, so that the hyperæmic parts, such as strangled or turgescent hæmorrhoids, etc., may thus be disgorged.

I desire to dwell particularly upon a very important advantage in the management of this instrument. When one has shut the two spigots, and when a vacuum is made in the body of the syringe, the *piston can be arrested in any part of its course;* when this is done, the needle being introduced into the organ to be explored, the fluid, by opening, either one of the spigots, is drawn into the syringe, in virtue of a pneumatic law, without the least movement being necessary on the part of the operator.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

ART. I.—THE PHYSICAL LIFE OF WOMAN.—ADVICE TO THE MAIDEN, WIFE AND MOTHER. By GEORGE H. NAPHEYS, A.M., M.D. Philadelphia, Pa.: Geo. Maclean. 1869. Pp. 251.

As this book has been very generally noticed, and often extravagantly commended by the Medical Journals of America; as it is being, to a large extent, advertised in the secular papers of this country; as it is supported and recommended by many of the clergy; as the work is eminently sensational in character, and written (as the author avows) "for women only," it is proper and appropriate that it should receive something more than a passing attention. If it be a fit work for the study of the women of this country, this should be generally, universally known; but if it be an improper and demoralizing volume, surely the sooner this is understood, the better will it be for the credit of professional men, and for the purity and welfare of American women.

That this work should be recommended by Mr. Henry Ward Beecher, is certainly a very doubtful tribute to its worth, its safety or its merits. The most charitable have but little now to urge in extenuation of the vagaries and discreditable acts of this clerical charlatan; of one whose life has been but a base prostitution of the highest offices of the priesthood; of one who has ever been ready to sacrifice the respect due to the American pulpit, in an insane craving for notoriety, and who, to receive the ephemeral adulations of the ill-refined and half educated, panders to every grovelling instinct which the debasing sensationalism of the present day insatiably demands. One who has always been ready to sacrifice the

respect due to his cloth to secure a notoriety which the ignorant mistake for reputation; one who has always been pitifully anxious to produce a sensation, and who has ignominiously retreated from every position assumed, if such a position induced unpopularity or involved personal responsibility; one who has but recently been recommended, for damning prosecution, in the "charge" of a brave New York judge to a New York jury, and who in a pitiful extenuation, before his congregation, of an act which has covered the American pulpit with shame, could only, in his elegant phraseology, say, that "he had slopped over," is certainly but a poor support for a questionable work which is presented for the guidance and welfare of any one, and least of all, for the guidance of American women.

That others of the clergy should recommend this work is not surprising to any one, even superficially conversant with the relations which the pulpit has long borne to legitimate medicine; with the course which the clergy, claiming to be scientific men, have adopted towards the members of the medical profession. What nostrum is there which is not supported by their certificates? What unblushing compounder of the villainous trash which, under the name of patent medicines, defiles this country, has ever failed to secure, in his nefarious courses, the innumerable certificates of the American clergy?

What "proprietor" of any of these medical impostures has ever come before the public, with his august face and valuable autograph upon the label of his bottles, and his classic name "conspicuously blown in the glass," without appealing to the clergy for support; and appealing always with overwhelming and disgraceful success? Indeed, one of the chief causes of suffering among the clergy (as among the village postmasters and small-beer judges) during the period of closed ports in the late war

was, that they were deprived of the pleasure and priviledge of seeking the only "bubble reputation" possible with them, in the characteristic and discreditable certificates given to every clown and harlequin who applied to them for coöperation and support. It may well be said that, the certificates of the clergy have long ceased to be worth the pen, ink and paper used in their preparation. The recommendations then of Dr. Naphey's work, by the clergy, are as natural as they are worthless; but it is indeed surprising that medical men should have followed such an example and should have given their testimonials, with an equal readiness and percipitancy. There is but one way of accounting for their course, and this is by supposing, charitably, that, like Charles Lamb, they refused to read the work for fear of having their criticisms "in any measure biassed!"

So it is however; this work comes before the medical and secular public, enjoying the support of many in the pulpit; of much of the medical and secular press; and of many prominent physicians.

What is written in criticism of this work, by the present reviewer, is intended to be decorous, and in all respects courteous and considerate; for he has every reason to believe, that its author is fully entitled to this, and that whatever errors there may be in his volume are errors in point of fact and judgment. There is no intention then of making any comments tending to wound or injure the author in any respect, for however injudicious he may have been, it is not believed that he has published anything which he regarded as improper or censurable.

A recent number of one of the New York journals contains, in its review of Dr. Naphey's work, this final sentence: "*no one, however scrupulous, need fear to admit this work within the pale of his family, and place it, with confidence, in the hands of his daughters.*" If there be a

shadow of justice in this statement, the present review must be regarded as utterly unfair and unjust. What are the facts upon which both reviews are supposed to be based? A few of them will be given.

The author states, that the generative organs of one sex are but the analogues of those in the other; then the question of hermaphrodites is analyzed; then the site shape, size, nature and function of the ovaries are discussed. Next, menstruation is considered in its function and objects; then puberty, in its details, is examined, with reference to the influences of the ball-room, "beaux," love and marriage upon the period of puberty; the changes in the "significance of the eyes," in the breasts, etc., being fully described. After these details, which are confessedly, comparatively harmless, but which are not usually regarded as advisable or beneficial topics for female study, the following subjects are discussed in language which is certainly not heard in unobjectionable circles; the "green-sickness;" *secret habits*, which, on the authority of Miss C. E. Beecher, the author alleges to be frequent causes leading young women to the brothel, etc., (but which most physicians regard as extremely rare); love, with the "physical pleasure in its gratification, an honorable and proper pleasure;" how to choose a husband; the proper age for a husband; what should be his temperament; the excitement and debility caused by long "engagements;" "the right time of the year to marry;" "the right time in the month to marry;" "the wedding tour" with details in regard to "the trials of the nervous system;" "the trials of the young wife;" "the wedding night;" "the pain and suffering peculiar to an initiation into marriage;" "the first nuptial relations;" "marriage consummated with difficulty;" "precipitation and violence to be avoided;" "the consequences of unrestrained impetuosity;" the result, slight flooding, etc.; the dif-

ference in pain experienced by blondes, brunettes, etc.; "conception assured, when the two individuals, who coöperate in it, participate at the same time in the transports of which it is the fruit;" "the effect of the disposition of the female at the time upon conception;" "influence of sexual passion upon the fœtus;" "the effects of sexual gratification;" "the sexual passion;" "the question now arises what effect *do* its presence and gratification produce upon the parents;" the effects of "these pleasures of love indulged in with moderation;" "the effects of music upon the sexual instinct;" "the season for love in its relations to conception, and the results of conception;" "intoxication in the husband, a proper ground for refusal;" "frigidity, a cause of barrenness;" "the stimulus of novelty to matrimonial intercourse imparted by a short separation;" "advice to wives who desire to have children," including "a sojourn on the bed, after the act," etc.; abortion with the methods adopted for securing it; "lactation a preventive of conception;" the sterility of an intermenstrual period; "the injury to the husband of uncompleted intercourse;" "the moment of generation;" "peculiar sensations experienced at the moment of conception;" "how to have beautiful children;" "conception should only take place at the proper season and with mutual passion;" "pleasant pictures and statues to be placed in sight during pregnancy;" "how the sexes can be produced at will;" "how can I tell when I am pregnant;" "the different changes in the nipples, uterus," etc.; "the education of the child in the womb;" "can a woman become pregnant during pregnancy;" "can a child cry in the womb;" "how to determine the sex;" "when marital intercourse is to be abstained from;" if the habitual epoch for the act of menstruation be avoided "there is no reason why passion should not be gratified, during the whole period of pregnancy," etc., etc., etc.

These are a few of the many passages of a similar character to be found throughout this work; several of the passages, are of a character that would render their repetition, though in a review, repugnant to the sensibilities of even male readers!!

It might well surprise every one that such a work could pass unrebuked by the medical press; and as it was written "for women only," can the medical or secular press keep longer silent? Are the passages quoted those which any father could read to his daughter, or a brother to a sister? Are they passages that any virtuous woman should read? Are these fit subjects and thoughts to be instilled into the minds of virtuous women? Could any virtuous woman read such passages, without the blush of shame and mortification? If an emphatic protest and a warning in season can avail anything to check or suspend the introduction of such a work into the circle of virtuous and pure-minded women, such a protest and such a warning is here recorded.

As objectionable, however, as this book is for the reasons given, it is scarcely less objectionable, for the serious and injurious errors of a medical character, everywhere apparent. A few of these may be indicated.

As most persons are aware, woman's breathing is superior-costal in character, while that of man's is inferior-costal and diaphragmatic: it is asserted in this volume that "woman breathes with the muscles of the chest, while man breathes with those of his *stomach;*" the ovaries are said to be made of *vesicles:* the clotting of menstrual blood it is stated, "*is a certain sign hat something is wrong;*" if a girl gives one arm in preference to another, or sleeps on one side, or throws an arm over the back of a chair when sitting, it is an indication of spinal disease; hysteria, it is confidently stated, "*is always curable;*" forced and systematic inspirations, if

practiced, guarantees one from "consumption," no matter how many relatives have died of this disease; early marriages entail either sterilty or extreme fecundity; those marrying early, inherit more readily the "defects" of their ancestors; "a negress who has borne her first child to a white man will ever after have chiidren of a lighter color than her own;" polygamy induces a preponderance of male children; the relative age of man and wife influences the sex of children; the color of the hair is an index of temperament, disposition and character; from the remotest ages, physical symmetry, strength, grace, etc., have been the marks of heroes; the bed of the consumptive is a "a powerful source of contagion; sleeping on sponge induces fertility, mattresses of compressed sponge being recommended for sterility; children conceived in spring have greater vitality; the older a woman is at marriage, the longer deferred is the period of her natural sterility; the number of children is in inverse proportion to the amount of food in a country; the spring of the year is the most favorable to fecundity; the father transmits to his daughters the form of the head, chest and arms, etc., while the shape and contour of the lower extremities is derived from the mother; in the sons these results are reversed; harelip is frequently not inherited, but is the result of maternal mental impressions; phthisis descends by alternate generations; seniority of the father gives excess of male offspring, and vice versa; the parents' mode of life, rank, religion, etc., influences the sex of children; the prediction of the sex of the child in utero can be made with some accuracy by a skillful physican; the chances that a young wife from 15 to 19 will bear twins, is as 1 to 189; from 35 to 39, the chances are as 1 to 41; not infrequently menstruation continues during pregnancy; morning sickness is sometimes simultaneous with conception; the

infant is not infrequently heard to cry in the womb "before the extrusion of the head from the womb;" mothers between the ages of 25 and 29 have the largest and longest children;" it is possible for a wife to tell the sex of the fœtus," if she can tell what time in her month conception took place, etc., etc., etc. How many physicians can doubt that these statements, like many more that could be given, are wholly erroneous, mischievous and unreliable.

There are many exaggerations of sentiment and statement apparent throughout this work. Here are a few of them; "the most absorbing question of the day is the 'woman-question:' the dissecting-table of the anatomist shows that only one passion" sits enthroned "in the bosom of woman;" the passion of love is dependent npon the capacity of having offspring; testimony in regard to abortion has so accumulated, as to sap the confidence of the public in the morality and religion of American women; in nearly every village the abortionists "stretch out their bloody hands to lead the weak woman to suffering and death," etc., etc.—Surely this is not the experience, opinion and testimony which the medical profession would or could give in regard to American women.

The instructions given for the care of the parturient women and the new-born child are elaborate and good, though there are few physicians who would exalt the application of "goose-grease" to the dignity of a special application for the person of an infant. Can it be possible that in domestic, as well as professional circles, the merits of this application, so worthily eulogised, are not sufficiently acknowledged or appreciated?

There is much statistical and miscellaneous matter of interest and value introduced into this work, in connection with the following subjects: the duration of preg-

nancy, multiple births, superfœtation, the influence of the maternal mind upon the fœtus, causes of protracted pregnancy, lactation, with the effects of nervous impressions upon the value and safety of the lacteal secretion, etc., etc. Indeed, had this work, with very many modifications and omissions, been prepared for the profession, it would have been valued, for it contains *much of value;* but written as it is, "for women only," the very portions of most interest to the physician are those which could not be endured by any woman not afflicted with prurient and revolting tastes.

A great deal of this work may be read by the physician with advantage, though it must be confessed that the most effeminate and lady-like men would become confused, if not lost, in the labarynthine descriptions of the toilet proper for the parturient woman. If there is any physician who can master the following passage, he should at once offer himself as a dry-nurse, or as the chief lady-in-waiting at some fasionable mantua-maker's establishment. There is some hesitation in giving the passage, for fear that some adventurous reader may injure himself in attempting to master it; but with this fair warning, here is the extract: "pull the bed-gown from over each arm, and draw it out from under the body; then unfasten the chemise in front, and draw it down underneath her, so that it can be removed from below, as it should not be carried over the head.—Place the arms in the sleeves of the clean chemise, throw the body over the head, (whether this is intended for the body and head of the chemise, or, the body and head of the woman, is not stated) and, without lifting the shoulders from the bed, draw *it* down." As though this were not enough to bewilder the reader, the author cruelly adds, "then change the bed-gown in the same manner."

It is somewhat surprising to find so many grammatical

errors in the work of one who has written oftentimes well. Here are a few of the many examples which could be given: "He saw for the first time a young woman *who* he felt was his destined wife." Speaking of "how to choose a husband," the author writes, "It is not left for notaries to *pick* for her;" "an even greater period passes between this epoch and the age it is proper for a man to marry;" "but his physical powers ripen *slower* than those of woman;" "we have placed the best age for woman to marry between twenty and twenty-five years;" "What effect *do* its presence and gratification produce;" "Alcibiades *descended* from ancestors remarkable for their beauty;" "an union of fair and dark complexions;" "in families where twinning is frequent;" "let neither be alarmed *or loose their* self-control;" etc., etc.

It is most remarkble that a book "intended only for women," should contain the most revolting and cruel libel upon woman that is to be found in literature. Writing of courtship, the author thus wrongs and insults every female reader who may be unfortunate enough to read this passage:—"A wise provision of nature ordains that *woman shall be sought.*—She flees and man pursues. The folly of modern reformers who would annul this provision is evident.—*Were it done away with, man, ever prone to yield to woman's solicitations, and then most prone, when yielding is most dangerous, would fritter away his powers at an early age; and those very impulses which nature has given to perpetuate the race, would bring about its destruction.*" An imputation more unjust, more untrue, more defamatory, never was written!

Enough, however, has been said to give the reader a fair conception of a work which many of the clergy, many of the newspapers, and many of our medical journals would introduce to the confidence and trust of American women.—If this review can, in any respect

prevent this, if it can keep the blush of shame and mortification from the cheek of one virtuous woman, who might otherwise have it brought there by reading this volume, the reviewer will be amply repaid for his time and labor. E. S. G.

ART. II.—INDEX OF DISEASES AND THEIR TREATMENT. By THOMAS HAWKES TANNER, M.D. Philadelphia: Lindsay & Blakiston.

II.—TANNER'S CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS. By THOMAS HAWKES TANNER, M.D. Revised by Tilbury Fox, M.D. Philadelphia: H. C. Lea.

III.—TREATISE AN INTRA-OCULAR TUMORS. By H. KNAPP, M.D., etc. William Wood & Co.: New York.

IV.—MANUAL OF HYPODERMIC MEDICATION. By ROBERT BARTHOLOW, M.D., of Cincinnati. J. B. Lippincott & Co.: Philadelphia.

V.—THE HISTORY OF FOUR CASES OY CHRONIC IEVERSION OF THE UTERUS. By T. GAILLARD THOMAS, M.D.: New York.

VI.—HYGIENE IN ITS RELATIONS TO THERAPEUSIS. By A. L. CARROLL, M.D.: New York.

VII.—SOME OF THE MANY POPULAR ERRORS IN REGARD TO MEDICINE AND MEDICAL PRACTITIONERS. By PAUL F. EVE, M.D.: St. Louis, Mo.

VIII.—THE PROGRESS AND CONDITION OF SEVERAL DEPARTMENTS OF INDUSTRIAL CHEMISTRY. By J. LAWRENCE SMITH, M.D.: Louisville, Ky.

IV.—INTRODUCTORY ADDRESS AT BELLEVUE HOSPITAL MEDICAL COLLEGE. By W. H. VAN BUREN, M.D.: N. York.

X.—THE PATHOLOGICAL ANATOMY OF SURGICAL STUMPS. By JULES M. CHAUVEL, M.D., Val-de-Grace. Translated by B. E. Cotting, M.D.: Boston, Mass.

I. This is, perhaps, as useful a work, as there is in the library. It is an able analysis of Dr. Tanner's great work on practice. For easy and rapid reference to all that is of material and immediate interest in disease, it is a work unsurpassed in value. To the busy practitioner, it is an incalculable convenience, and being inexpensive, it should certainly be in the hands of every physician.

II. The last edition of this little manual has just been published. The work has been out of print for some time. It is a monument to the eminent analytical and practical power of its distinguished author, Dr. Tanner of London. Dr. Fox has done good work in the revision necessary. The parts on physical diagnosis are, perhaps, too brief, if not defective, but in all other respects the volume is entirely satisfactory. It is a small volume, and is in reach of all.

III.—To those interested specially in ophthalmic surgery, this work of Dr. Knapp, of New York, (lately of Heidelberg), will be unusually welcome. The author has already attained a happy eminence in this country, and it is questionable whether there is a better pathologist and surgeon in ophthalmic diseases, etc., in America. He is an acquisition to the brilliant medical and surgical circles of New York, and his appearance before the public, whether in debate or through the press, has always been highly creditable.

IV.—This manual is very superior in all of its details It will give entire satisfaction and contains much that is valuable and practical in connection with this interesting subject; a subject of gradually but consecutively increasing importance. It embodies a fund of practical facts and suggestions, that are very valuable.

V. This pamphlet (reprinted from that valuble work, the American Journal of Obstetrics) will be published in

this journal, with comments and criticisms, by one of the ablest gynæcologists in America. The pamphlet has attracted deserved attention, from the originality and boldness of the practice therein recommended by its author. The necessary implication of the ovaries, in the operation for removal of an inverted uterus, and the physiological deductions contingent upon such an ablation, are questions that will subject this pamphlet of Dr. Thomas (independently of the novel operation performed) to the criticism of many.

VI. Those who would read a masterly exposition of the subject of hygiene in its relations to therapeusis should obtain this pamphlet of Dr. Carroll, who is one of the able, judicious and independent editors of that very valuable weekly, the New York Medical Gazette; a multum in parvo.

VII. Dr. Eve's pamphlet is republished from the St. Louis Medical Archives. It furnishes interesting proofs and illustrations of the errors of which he writes. The paper is prepared with ability and is the result of much mental labor, with a most philosophical analysis and able disposition of its fruits.

VIII. This is a pamphlet published at Washington, by the Government, of which Dr. Smith was a representative at the Universal Exposition at Paris. The paper reflects great honor not only upon its distinguished and accomplished author, but it is a source of pride to all Americans, who can recognize in every page of the work, that they and their country have been represented by one in all respects worthy of the high mission, with which he was so judiciously charged. Dr. Lawrence Smith, formerly of Charleston, S. C., but long since an adopted citizen of the State of Kentucky, has long held positions of honor, trust and distinction in this city, where he now resides, and his friends are pleased

to recognize in this, his last publication, a full realization of all the expectations formed in regard to it and its author.

IX. This address is far superior to those usual on such occasions.—The following subjects are briefly but well discussed: the advantages of demonstrative and clinical teaching, over that wholly didactic; the science of medicine, a comprehensive basis for a great variety of pursuits not strictly medical in character; medical science honestly studied, surely remunerative; the increased and increasing field to be cultivated; the great advantages of a classical education; the injudiciousness and danger of neglecting the classics in preparing for the work of the physician; a living language (as constantly changing) can not be used as a general medium for the communication of thought; a language that has ceased to change, only reliable for this purpose; such a language, being a dead language, justifies Max Muller's paradox, that "a language does not really live until it is dead;" the Russian, the Hindoo, the German, the English, etc., all describe anatomical elements and organs by a similar and mutually understood name; a plea for the Anglo-Saxon language; the necessity of specialism in medical study, its judiciousness and safety, *provided* it be undertaken after a *thorough medical education;* the grand triumph of specialists; their great advantage to the patient; the noble injunction to send all patients to those believed to be most skillful; success, as the world judges of it, (that is, notoriety, wealth, a large business, etc.) not a genuine success, for it is not the test of merit; "the only test of a physician's merit is the degree of esteem in which he is held in his own profession."—The address is full of eloquent, noble and beautiful passages.

X. This pamphlet should be generally purchased. There are few physicians who, after the terrible mutila-

tions caused by the recent war, have not often to give opinions in regard to the neuromas, neuralgias, the degenerations and diseases of those remnants of limbs which are termed, with melancholy significance, "stumps;" the useless remains of all that was once so useful, so priceless and so dear; the sad mementos of bloody battle-fields whose mutilated living victims have received, from time immemorial, the sympathy of brave men, but who have had to hear the epithet cripple, fall from the lips of those too pusillanimous to respond to tests, that make even cowards, at times, wear the livery of the brave!

This pamphlet is well translated, and giving much in a very small compass, it should be in the hands of all. It is well worthy of the study of the very best men in the professional ranks. E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

The application of collodion to the inverted eye-lid is claimed to be the best treatment for entropium.——The London Homœopathic Review states that it was becoming difficult to obtain an audience at the lectures given at the London Homœopathic Hospital. Students have lost confidence in legitimate homœopathy and as they see that it is not practiced, they go where they can better learn the allopathic treatment largely adopted by homœopaths. In the London Homœopathic Hospital, tincture of iodine is freely painted over glandular enlargements; for pain or sleeplessness, 1-48th of a grain of morphia is given every fifteen minutes. The hospital physicians repudiated one and all, the fallacies and absurdities (of Hahnemann) of infinitesimal doses. ——The faverite treatment for lead-poisoning by iodide of potassium has been supplanted, to a great extent, by

the use of sulphuric acid and the sulphates; a combination of sulphate of quinia, sulphate of iron, sulphate of strychnia, sulphate of magnesia and dilute sulphuric acid, each in therapeutic doses, is a favorite prescription.——As the result of an elaborate series of experiments, in Russia, it is found that the amount, quality and value of milk is in direct ratio to the amount of animal food consumed.——Dr. Thomas Hunt, of the Western Dispensary for Diseases of the Skin, states that arsenic he finds to be the bsst remedy in more than one half of the diseases of the skin which pass into his hands. He uses preferably Fowter's solution, in therapeutic doses, and finds it almost invariably safe and efficient.——M. Sappy, the great microscopist, states that in the two ovaries of one healthy woman, the number of ovisacs and ovules is over 700,000. That if it were possible to fecundate all of them, one woman could populate four such cities as Lyons, Marseilles, Bordeaux and Rouen; two women could furnish the population for a capital like Paris, containing 1,600,000. This is a practical consideration of the woman-question. It were well for those who are disturbed about this question to recollect these facts, and also the celebrated reply given by the first Napoleon to Madame de Stael, when she asked, "Sire, who is the most distinguished of women," "Madame, she who bears the State the largest number of male children."——It is said that the reason why lawyers are usually such good sleepers is that they *lie* well on either side.——One of the exchanges is guilty of the following ludicrous statement, "in Paris, married ladies only wear feathers."——The curious and "progressive" are using carbolized dry-earth for the treatment of suppurating wounds and for burns. It is said to do good service.——A distinguished Scotch physician uses the following prescription for sore or fissured nipples: plumbi nitratis grs x, glycerine ʒj. This is applied, after the child has ceased to nurse, and is *washed off carefully* before the child is reapplied to the breast.——The essence of turpentine has been found to be a valuable prophylactic for the prevention of phosphorous poisoning and for this poisoning it is the best antidote.——Dr. A. T. Schertzer, of Baltimore, reports the case of a lady who has consumed, in two years, 5,840 ounces of laudanum.——The Medical Record reports a case of hydrocephalus in a child (aged 17 months) "whose head measured 27 inches in the occipito—frontal circum-

ference, and 19 inches from one meatus of the ear to the other over the top of the head."——Prof. Lüche treats goitre by the hypodermic use of iodine; he uses five drops of the tincture every eight days. The results are satisfactory.——The Obstetrical Journal reports the case of a woman who had never menstruated until after the weaning of her last child, nor had she in six normal labor any lochial flow.——The Journal de Chemie reports some marvellous cases of relief from pain by the use of varnish after ordinary burns; with prompt healing. The remedy attracts much attention.——An ingenious arrangement has been devised for keeping hospitals, hot houses, churches, and dwellings, at an even or uniform temperature in Winter. An ordinary thermometer is so balanced that at the temperature desired the thermometer is at rest or horizontal; if the mercury falls, the thermometer tilts down and completes the circuit of an electric apparatus whieh opening the valve of the furnace allows an increased amount of heated air to enter; if the mercury rises, the thermometer tilts in the opposite direction and breaking the electric circuit, the valve closes and the heated air is shut off.——Students or graduates going North will find it to their advantage to attend the Long Island Hospital College. It has a most able Faculty, and the clinical advantages are very excellent. The next session will commence in a few weeks.——The proposition of Dr. Lister to use organic ligatures (tendon) in surgery has been adopted by many. The results are good and the ligature is absorbed. This would be a particularly good ligature in the operation for ovariotomy. ——A singular cutaneous disease has appeared in those handling damaged wheat; the eruption is miliary in character. Examined microscopically, there is found to be at the base of the eruption a species of acarus.——The Medical Gazette, of New York, calls attention to the fact that the addition of a little tartaric acid to the iodide of iron, clears it up and removes the inky taste. ——A Chicago physiclan, speculating heavily in real estate and much excited upon that subject, wrote the following upon a prescription: "one quarter *down*, balance in one, two and three years."——The modern technology for a wart is *myrmekiasmos;* what is more interesting on this subject is, that warts may be made to disappear under the use of Fowler's solution.——The catchers of sewer-rats (whose skins are used to make the best Jouvin

and Alexandre *kid* gloves) find that sulphate of iron or the use of meal saturated with a decoction of squills is the best and surest poison.——The Lancet contains a letter from a resident of Bengal giving some particulars as to the use of milk as a remedy for dysentery, for which it is there considered a specific, "a pint every four hours will check the most violent diarrhœa, incipient cholera or dysentery. In fact so much is not usually given, as it causes constipation. Half a pint every meal, generally reduces gradually and pleasantly any ordinary diarrhœa. If you have a stomach-ache, without diarrhœa, a pint of hot milk generally cures it in ten minutes. It is perfectly soothing to the whole alimentary canal. It has never failed in curing me in six or eight hours, and I have tried it I should think fifty times. I have also given it to a dying man, who had been subject to dysentery eight months, latterly accompanied by one continued diarrhœa, and it acted on him like a charm. In two days his diarrhœa ceased; in three weeks he became a hale, fat man, and now nothing that may hereafter occur will ever shake his faith in hot milk."——Dr. C. F. J. Dehlbach says—Transactions of the Med. Soc. of New Jersey (Med. and Surg. Reporter)—"I had the misfortune of unconsciously scratching different parts of my hands during a post-mortem examination. In two days not less than seven dissecting pustules appeared on both hands. After having used nitrate of silver, ammonia, etc., without benefit, until the glands in the axilla became painful and swollen, I resorted to carbolic acid. The pustules ceased to spread, dried up, the inflammatory areola disappeared—that was the end. Two weeks ago the same thing occurred again. The pustules of two days' growth were touched with carbolic acid once—that was the last of them."——Several cases of varicose ulcers are reported in the Medical Gazette, cured by Prof. Stephen Smith's method. Dr. Osborn, the reporter, finds it highly satisfactory. It is simple and safe. "A bandage is tightly drawn around the leg, immediately below the knee, with a compress over both or either of the large veins involved. The patient is requested to throw his weight on the limb to be operated on, and when the vein becomes sufficiently distended, with a hypodermic syringe, having a sharp point, well oiled, inject into the veins below the compress, 3 or 4 minims of liquor ferri persulphatis; withdraw it immediately, placing the finger over the

point of puncture, then cover it over carefully with adhesive strips (icthyocoll). A fine clot will form from the compress down, half an inch to an inch. All air must be forced out of the syringe before throwing in the injection. The compress may be loosened a few hours after the operation, and in a few days it may be removed entirely. The patient is enjoined to rest in a recumbent position for a few days." This is a very easy and ordinarily safe method of treating these frequently very troublesome sores, as well as for avoiding danger of rupture of the distended veins.

PROCLAMATION.—For a day of remembrance, honest-dealing and restitution in the Commonwealth of Letters:

Whereas, It appears, that certain generous people, ready to aid the "diffusion of knowledge," are in the habit of committing books of value, to certain unpunctual borrowers, of short memories; Therefore, by the advice and consent of many sufferers, expressed or taken for granted, Saturday, the fifth day of March next, is hereby appointed to be set apart as a day, when all readers of every name and description, shall examine their libraries, studies, centre-tables, "what-nots," depositories of pamphlets, and newspapers, carefully to ascertain whether they have in their possession, any volumes, bound or unbound, tracts, pamphlets or journals, not their own property, but had and obtained simply for perusal, from friends and aequaintances; and in all cases, where such examination results in finding any publications, ancient or modern, large or small, prose or poetry, songs or sermons, belonging to parties, who lament lost tomes, broken "sets" or missing periodicals, to forthwith put up said publications, in clean paper, and by their own, or more trustworthy hands, transport them home.

And it is hereby recommended, that persons who believe that books are books, and not umbrellas; that lending is not giving, that debts are to be paid, and promises to be redeemed, observe and keep the day above named in the manner enjoined, in order that they may be thankful for relief from the accusations of conscience, and also to make their friends thankful for the recovery of property, the *titles* to which are vested in them, beyond all quibble or doubt.

Given in an inaudible and invisible, but most sympathetic Council of the Pilfered, this 30th day of January, A. D. 1870.

HONESTUS BIBLEOTHECARY, Governor.

FIDELIS RESTITUTOR, Sec'y.

MEDICAL NEWS.

"Nulla Dies, Siue Linea."

Langenbeck, of Hanover, has recently removed an inverted uterus. The patient removed the ligatures on the tenth day. The operation was a success. One of our Western surgeons has performed, involuntarily, the same operation and with complete success. He supposed that he was removing a uterine polypus. Another case of inversion has narrowly escaped recently the operation for the removal of a uterine tumor. Dr. Atlee, of Philadelphia, states that uterine fibroids may at times be removed by small doses of muriate of ammonia. This practice will not, of course, receive the endorsement of the profession, but it has at least one merit; a female adopting it may escape the loss of her uterus from the blunders of surgeons, who will, it seems, mistake cases of inversion for tumors, and forthwith institute summary ablation.

We notice with satisfaction that, in the award of the Monthyon Prize (Concours of Medicine and Surgery), Prof. Austin Flint, Jr., of this city, received an "honorable mention" with a "recompense" of 1,500 francs, for his paper on a "New Function of the Liver," etc. This paper appeared originally in the American Journal of Medical Sciences, October, 1862, and was translated into French, and entered for the Monthyon Prize at the instance of Prof. Claude Bernard. This handsome acknowledgment of the merits of the paper, as well as the success it has met in the Concours, is a matter not only for congratulation to the author, but an occasion whereon we may indulge in a little pardonable glorification at the honor conferred upon the profession of this country. The prize itself, of 2,500 francs, was awarded to Villemin for his Researches upon the Inoculation of Tubercle—which is, undoubtedly, one of the most valuable contributions recently made to the science of medicine.—*New York Jour.*

Ricord.—This distinguished specialist has received a gratifying mark of imperial favor. Like M. Nèlaton, he has been made a Senator. He has also lately received

from the Emperor, in connection with a cordial letter, thanking him for his attention during his recent illness, a gold snuff box, ornamented with diamonds, valued at 10,000 francs. The messenger who carried the present took back the answer that the autograph letter would have been prized just as much, without the elegantly jewelled envelope.—*Med. Times and Gaz.*

A Munificent Gift.—Josiah Mason, a manufacturer of Birmingham, England, has just delivered to the trustees the property and endowments of his alms-houses and orphanage at Erdington. The amount of money expended is £260,000, or about $1,250,000.

Infanticide—The distinction between the evidence required, where secret disposition of the dead body of an illegitimate child and murder are alleged, has just been illustrated in a trial in one of the English courts. A girl had been delivered of a child, of which she had certainly disposed. But no body could be found which could be identified as that of her child. Although the proof of delivery was complete and indisputable, the accused was acquitted. The judge remarked, that, had the girl been charged with murder, she could have been convicted on the evidence adduced.—*N. Y. Med. Jour.*

Reproduction of Bone by the Marrow of Bones.—M. Gonjon has won the prize of 500 francs, granted by the French Academy of Sciences, for demonstrating that the marrow of bones has the same power of reproducing bony substance as the periosteum; that engrafted elsewhere in the body, it possesses the extraordinary quality of reproducing bone, as the author showed in a rabbit in which bone had been made to grow under the skin, by the transplantation of some of the animal's marrow.—*Medical Record.*

The Messrs. Appleton, of New York, have presented to the subscribers to the Psychological Journal, and New York Medical Journal, a very handsomely engraved portrait of the late Dr. John W. Francis, of New York.

The proprietors of the Philadelphia Medical and Surgical Reporter have presented to their subscribers a very fine and well engraved portrait of Dr. Samuel Gross, of Philadelphia.

Dr. Wharton P. Hood (Lancet) reports a case of vaginismus cured by forcible dilatation of the vagina, with a bivalve speculum.

The first number of the Baltimore Medical Journal announced to appear, has been issued. It is creditable in the arrangement and selection of its matter. The proof-reader has been, however, derelict, as the journal is defaced by very numerous typographical errors.

The Western Journal of Medicine has had its title changed to that of the American Practitioner. The first number of the new issae has been received. The mechanical work is handsomely done, though the material and arrangement of the journal are not as good as was usually apparent in the journal, under its old name. On page 63 there are some dangerous blunders, which, if not speedily corrected, may cause not only serious injury, but death; the *minimum* dose given in a prescription for the hypodermic use of aconitine is 1–15th of a grain. The same error is made in the prescription for the use of atropine hypodermically. It is scarcely necessary to say that any one using these prescriptions would certainly destroy life. It is to be regretted that in this journal, the physicians of the Southern States are not represented in the "original communications."

The American Journal of Syphilography and Dermatology has been received. It is edited by M. A. Henry, M. D., New York, and is published (quarterly) by T. W. Christern, New York. This journal fills a void long apparent, and ought to have a full support. It is well edited, and the publishers have left nothing to be desired in regard to the mechanical department of the journal. Price $3 00 a year.

The Archives of Ophthalmology and Otology is the title of a new journal to be issued by W. Wood & Co., of New York. It is published and edited simultaneously, in English and German, at New York and Heidelburg. It will consist of 600 octavo pages, (in two volumes) published, one-half in May next and the other half six months subsequently. Price $7 00 a year.

Physicians everywhere will regret to learn that the celebrated Dr. Dudley, of Lexington, is no more. As a sketch of the life of this great man will be published in this Journal, there will be nothing in this connection given at the present time. The profession has also to mourn the loss of Dr. Francis Deane, of Richmond, Va., who, though not as brilliant or distinguished a physician, was not less loved or respected.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Southern Medical Journals.—In offering a few reflections in regard to American medical journals, it seems appropriate and proper, first to thank, very warmly, the subscribers to this journal, for the generous and increasing support which they have extended to it. When it is known, that, since the close of the war, *seven* Southern journals, conducted many of them by men of ability, have disappeared, all having perished either from neglect or inanition, there is an increased reason for thanking the subscribers to this work for their generous and increasing support. That very many have been supporters of this journal from the personal reasons of friendship is well known to the editor, but, while this does not by any means lessen his gratitude, it explains, in a material measure, why this journal has been more fortunate than many others, (at the South), conducted with discretion and ability.

The fact of the failure of *seven* Southern journals in four years, while, in this period, not one journal published in the Northern States has perished, furnishes the opportunity of asking why this condition of relative failure and success, at the North and South, should exist? Southern men have, very generally, lamented the fact of their having but a poor periodical literature, (either medical or secular in character), and yet, when a periodical is commenced at the South, it is almost impossible to induce Southern men to support it! They have since (as they did before), the war, supported a periodical literature at a distance from them, while they have refused to sustain a literature published at home, by those with whom they are connected by all the ties per-

sonal, geographical and historical which bind men together, and should make them true to each other. No one would advocate the policy or propriety of Southern men repudiating and discountenancing the periodical medical literature published at a distance; far from it, for these periodicals are, as a rule, worthy of a munificent support, but it is certainly proper and appropriate, that every population should sustain first struggling public enterprises at home, and then, if they can do so, sustain those that are in successful operation, at a distance from home. It is a melancholly and a suggestive fact, a fact naturally tending to induce the gravest apprehensions, that Southern physicians have allowed *seven* Southern Journals to perish, while, in the same period, a large proportion of those thus acting have been prompt and liberal supporters of journals whose success needs not their encouragement and support.

When will the physicians of the South so act that they may have a literature which they can allude to with pride and pleasure, and say that it is the offspring of their own care, culture and support? The example of every man is potent for good or evil in this connection. Let every man do what he believes to be right and proper, and he will often discover, that his hesitating neighbor is influenced, supported and comforted by his example. No one has the right to complain unless he first does what is right himself, and if Southern physicians will first do what is right in this matter, what they admit and know to be right, complaints of the medical or general literature of the South will become a matter of history.

It is of course said, that literature published elsewhere is more valuable, but it may justly be asked how is the South ever to have a literature, either medical or secular, unless Southern men will do what they confess to be es-

sentially proper and obligatory. Of course, the establishment of a literature, satisfactory to any people, must first depend upon that people. It requires support, and support comes largely by example. If each one desires his neighbor to do right in this matter, he must first do what is right, himself. It each one will do what he knows to be true and just, success will be immediate, absolute and permanent; let the guiding injunction of each be "trahit quodcunque potest et addit acervo."

When the physicians of the South have created a medical literature of their own, a depository of their genius, mental energy and industry, then let them be patrons of literature at a distance. If they can support distant literature, as well as that at home, by all means do so, for such literature is worthy of all praise, but unless this can be done or until it can be done, surely it is the instinct of pride, and principle, and justice to support first the literature at home.

Editorial Brevities.—A new Board of Health has been elected for the city of Louisville. It is to be hoped that it will aspire to something of more consequence, than the inspection of alleys, butchers meat and candy. If the water and the drainage of the city received proper attention, if the condition of the public buildings and the public charities, the hospitals, poor-house, pest-house, etc., in regard to their hygienic condition and proper management, were thoroughly inspected, the reports in reference to sugar candy, etc., could be justly abandoned.——Those who wish a superior, instructive, and always valuable periodical, should subscribe tor the Baltimore Eclectic Magazine.——The Southern Quarterly Review, published at Baltimore, is as able a work as there is published in Europe or America; it deserves an abundant support.——Many physicians desire to know which

is the best "Visiting List," that published by Lindsay & Blakiston, Butler, or Townsend & Adams; it is impossible to say; they are all very excellent. It is best to take them in turn and learn which arrangement is best adapted to the wants or fancy of the purchaser.——The Pacific Medical and Surgical Journal has been sold by its former publishers, the Bancrofts of San Francisco, without the consent or desire of its editors, the Drs. Gibbons of that city; they refused even to allow the former editors to have their old subscription list. The editors will continue the issue of the work and it is to be hoped that they will have a prompt and generous support.——Dr. Sidney A. Norton, of Cincinnati, Ohio, has prepared, for the use of students, a very valuable "chemical table." It gives, at a glance, the name of each chemical substance, its discoverer, the date of the discovery, its source and preparation, symbol, equivalent, atomic weight, atomic volume, specific heat, fusing point, specific gravity, etc.; it is a complete and most valuable chart.——Attention is directed to the advertisements of several Summer Schools in this number. These advertisemsnts furnish all the particulars in regard to the merits of each.——There are several complete sets of this Journal, for 1869, for sale, at $3.00 each.——Messrs. Kelly & Piet, of Baltimore, Md., reprint the Practitioner, of London; they are also agents for the Medical Times and Gazette, and London Lancet (original copies); this excellent house will always give satisfaction to all who may deal with them.——There are no agents for this Journal outside of this city. Subscribers will bear this in mind. Very many warm friends act as such, but they all voluntarily request that receipts and contracts be signed in Louisville.——A Medical College has been organized at Kansas City. The sessions are as usual—the fees are $120.00.——The Medical Society of the District of Co-

lumbia, at Washington, has been seriously divided on the question of admitting the negro to all the rights and privileges of membership. A new society has been formed, and an appeal is to be made to Congress to annul the old charter, and to grant a new, conferring equal rights, equal privileges and social equality upon the negro. The omuipresent and ubiquitous negro, it seems, is to be a disturbing element in every society, community and State. He seems to be like the elephant at the raffle; no one wants him and each one seems afraid of him, but "more sinned against than sinning," he is entitled to the profoundest and kindest consideration.——The most complete Almanac issued in America, fs the "Public Ledger Almanac," issued by Geo. W. Childs, of Philadelphia, Pa. It is a most convenient and excellent publication. ——Dr. Good desires to have it known that the best and satest prescription for the hydrate of chloral, is as follows: chloral hydrat ℥j; aquæ menth pip, syrupi simp āā ℥j, m.ft. sol. S. a tablespoonful every 20 or 30 minutes until sleep or quiet is secured.———The Baltimore Medical Bulletin has been changed in form and style. It will be far more acceptable, as it is at present published. It is an independent and well conducted work, and has received, as is announced, a full support. Its present editors divide the necessary work; Dr. Edward Warren will continue to ably conduct the editorial department, while the business department will be in charge of his partner, who has purchased an interest in the journal. ———A circular has been received from A. S. Macrae, Anglo-American produce broker, Liverpool, England, in which he desires to have it known to American physicians and those interested, that the American sumac is far superior to the Sicilian; that there is an enormous demand for sumac, and that the Americans, instead of sending on their own at a large profit, are actually im-

porting the Sicilian sumac. In Liverpool, sumac commands $125.00 for a ton of 2,240 pounds.

NOTICES.

NOTICE—MR. CHARLES BELL GIBSON (a brother-in-law of the editor), is now the General Business Agent of this Journal. As such he has full power to make contracts and sign receipts. Mr. W. P. Holloway, the former active and energetic agent, has been compelled from bad health to withdraw.

MEDICAL COLLEGE CONVENTION.—*To the Trustees and Faculties of the Medical Colleges of the United States*: The undersigned committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati in May, 1866, respectfully and earnestly invite you to send delegates to be held in the city of Washington on the Friday preceding the first Tuesday in May, 1870, for the purpose of considering all subjects connected with Medical College education, and procuring the coöperation of the schools in carrying out a uniform system of medical instruction. It is very desirable that every regular Medical College in this country should be represented in the Convention.

CHICAGO, ILL., Dec. 22d, 1869.

N. S. DAVIS,
S. D. GROSS,
GEO. C. BLACKMORE,
F. DONALDSON. } Committee.

The attention of all interested is called to this notice and an earnest coöperation is respectfully invited.—ED. In last number this note was misplaced.

IMPORTANT LEGAL DECISION.—The Courts have decided, that any person who takes a Paper, Magazine or Journal from the Postoffice, whether directed to his name or to that of another, or whether he has subscribed for it or not, is responsible for the payment. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it, until payment is made, and collect the whole amount, whether the publication be taken from the postoffice or not. The courts have also decided, that refusing to take newspapers and periodicals from the postoffice, without informing the publishers of such refusal, or removing, and leaving publications uncalled for, is prima facie evidence of intentional fraud, that is actionable in law.

NOTICE.—The Kentucky State Medical Society meets at Bowling Green, Kentucky, on the first Monday in April, 1870, this being the fifth day of that month. It is asked that the worthy Secretary will, by correspondence, induce reports from the different committees, and that all who can attend will use every exertion to do so. The meetings and Transactions of the Medical Societies of neighboring States have been constantly increasing in importance, and it is to be hoped that, in such a worthy emulation, Kentucky will, through her physi-

cians, give continued reasons for congratulation and pride. As the Ohio State Medical Society reciprocated very handsomely the invitations extended to its members last year, these invitations will, of course, be repeated.

For Sale.—The manufacturers have placed in the hands of the editor several instruments for sale. Messrs. Codman & Shurtleff, of Boston, have sent several complete and perfect steam atomizers. Dr. Read, of Boston, has also sent a few of his atomizers that are both excellent and offered for sale at a very low price.

Messrs. Otto & Reynders, of New York, have sent very complete hypodermic syringes, combining all of the most recent and approved improvements.

Dr. Babcock has sent specimens of his silver uterine supporters. These supporters have been used by medical gentlemen well known to the editor and they have given entire satisfaction.

Note.—All of the instruments, from the manufacturers mentioned, will be delivered at the lowest price charged for them at the factories.

BOOKS AND JOURNALS RECEIVFD.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M.D., Professor of Clinical Medicine, Dorpt, Russia. Translated and edited by H. Raphael, M.D., New York. D. Appleton & Co: 1870. From the publishers.

Elementary Chemistry. By George Fowns, F. R. S., late Professor of Practical Chemistsy in the University College, London. Edited by Robert Bridges, M.D. One hundred and ninety-seven Illustrations. Philadelphia, 1869: Henry C. Lea. From the publisher.

Materia Medica and Therapeutics fer the Use of Students. By J. C. Riley. A.M. M.D., Prof. of Therapeutics, National Medical College, Washington, D. C. J. B. Lippincott & Co, 1869. From the publishers.

The Wasting Diseases of Infants and Children. By Eustace Smith, M.D., London. Henry C. Lea: Philadelphia. 1870. From the publisher.

Manual of Hypodermic Medication. By Roberts Bartholow, A.M. M.D., of the College of Ohio. J. B. Lippincott & Co. Philadelphia, 1869. From the publishers.

Obstetric Aphorisms. By Jos. Griffiths Swayne. M.D., Bristol Medical School. Henry C. Lea: 1870. Philadelphia. From the publishers.

Percussion and Auscultation as Diagnostic Aids, By Dr. Carl Hoppe. Translated by L. C. Lane, M.D., Philadelphia. J. B. Lippincott & Co. 1869. From puhlishers.

A Manual of Clinical Medicine and Physical Diagnosis. By Thos. Hawkes Tanner, M.D.. F. R. S., etc. Revised, etc. by Tilbury Fox, M.D., London. Philadelphia: H. C. Lea. 1870. From publishers.

The Body and Its Health; A Book for Primary Schools. By E. D. Mapother, M.D., Dublin, Ireland. New York: Harpers. From the publishers.

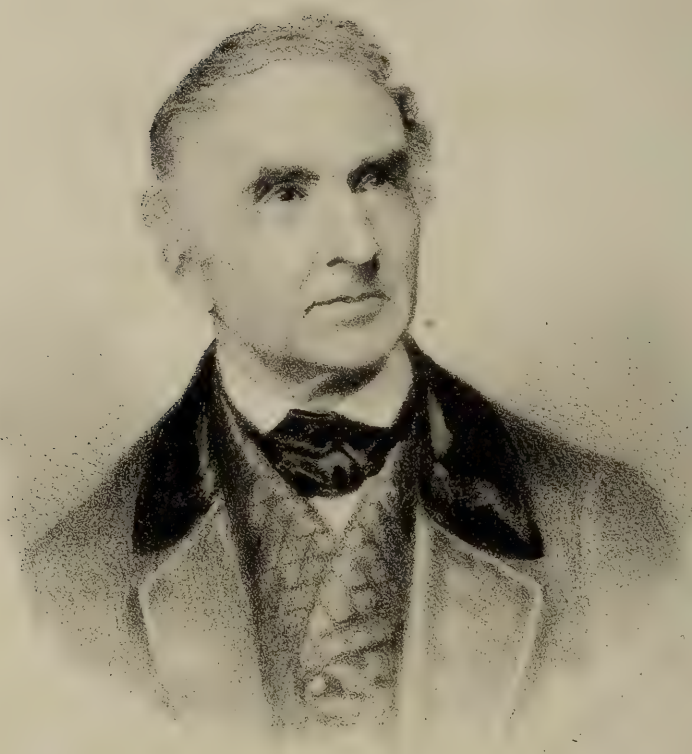
The History of Nine Cases of Ovariotomy. By T. Gaillard Thomas, M.D., Professor of Obstetrics, etc., in the College of Physicians and Surgeons, New York. D. Appleton & Co. 1869. From the author.

Memoir of Robley Dunglison, M.D., LL.D. By S. D. Gross, M.D.. LL.D., Philadelphia. 1869.

Public Ledger Almanac. G. W. Childs, Philadelphia. 1870.

Landreth's Rural Register and Almanac, 1870. Philadelphia.

A Consideration of Some of the Many Popular Errors in Regard to Medicine and Medical Practitioners. By Paul F. Eve, M.D., of the Missouri Medical College, St. Louis. 1869. From the author.



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THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. IX. MARCH, 1870. No. 3.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—OBSERVATIONS UPON THE LOSSES OF THE CONFEDERATE ARMIES FROM BATTLE, WOUNDS AND DISEASE, DURING THE AMERICAN CIVIL WAR OF 1861–65, WITH INVESTIGATIONS UPON THE NUMBER AND CHARACTER OF THE DISEASES SUPERVENING UPON GUN-SHOT WOUNDS. By JOSEPH JONES, M.D., Professor of Chemistry in the Medical Department of the University of Louisiana, and Secretary of the Southern Historical Society, New Orleans, La.

The general results of preceding calculations, concerning the military strength and losses of the Confederate army by disease and wounds, were submitted to the examination of the highest living authority. This was especially necessary, as the Confederate records were either captured or destroyed, and those which have survived the war are supposed to be inaccessible to the Medical officers of the late Confederate States army. The following correspondence needs no further explanation:

Southern Historical Society—Confederate losses during the Civil War of 1861–65—*Important Correspondence between the Secretary, Joseph Jones and Gen. S. Cooper, formerly Adjutant General of the Confederate States.*

At the last regular meeting of the Southern Historical Society the Secretary submitted the following correspondence:

NEW ORLEANS, August 27, 1869.

General S. Cooper, Alexandria, Va.,

Dear Sir: You will please excuse the liberty which I take in trespassing upon your valuable time. I have recently been preparing, for the Southern Historical Society, a paper upon the losses of the Confederate army, from battle, wounds and disease, during the civil war of 1861-65.

The following general results of my investigation are most respectfully submitted to you for examination and criticism:

Killed, Wounded and Prisoners of the Confederate Army, during the War of 1861–'65.

Year.	Killed.	Wounded.	Prisoners.
1861	1,315	4,054	2,772
1862	18,582	68,659	48.300
1863	11,876	51,313	71,211
1864 } 1865 }	22,000	70,000	80,000
Total.....	53,773	194,026	202,283

If the deaths from disease be added, the sum total, will represent the entire loss. The returns of the field and general hospitals, are known for 1861-62.

Confederates killed in battle, 1861-62. : : :	19,897
Deaths caused by wounds, in Field Hospitals, :	1,623
" " " " " General " : :	2,618
" " " disease " Field " : :	14,597
" " " " " General " : :	16,741
Total deaths in the C. S. A., 1861-62, : : : :	55,476
" wounded in " " " " " :	72,713
" prisoners, in " " " " " : : :	51,072
" discharged " " " " " : : : :	16,940
Total wounded, prisoners and discharged, 1861-2	140,725

It if be fair to assume that the total mortality of 1863 and 1864 was fully equal to that of 1862, then the total deaths in the Confederate army in 1861-65, was at least 160,000, exclusive ot the deaths in Northern prisons, which would swell the number to near 185,000, and if the deaths amongst the discharged for wounds and disease, and amongst the sick and wounded on furlough be added, the grand total of deaths in the Confederate army,

during the entire war, did not fall far short of 200,000. According to this calculation the deaths from disease were about three times as numerous as those resulting from the casualties of battle.

The available Confederate force, capable of active service in the field, did not during the entire war, exceed six hundred thousand men. Of this number, not more than four hundred thousand were enrolled at any one time, and the Confederate States never had in the field more than two hundred thousand men, capable of bearing arms, at any one time, exclusive of sick, wounded and disabled. If the preceeding calculation, be correct, we have the following figures illustrating the losses of the Confederate armies during the war:

Confederate forces actively engaged, 1861-65,	600,000
Total deaths in Confederate States army, : :	200,000
Losses of Confederate States prisoners, 1861-'65 which may be considered as total losses, on account of the policy of non-exchange by U. S.	200,000
Losses of C. S. A. by discharges, disability and desertion, : : : : : : : : : : : : :	100,000

If this calculation, which is given only as an approximation, be correct, one-third of all the men actively engaged on the Confederate side, were either killed outright upon the field or died of disease and wounds; another third of the entire number were captured and held for an indefinite period, in Northern prisons, and of the remaining two hundred thousand, at least one-half were lost to the service by discharges and desertions. At the close of the war, the available force of the Confederate States, numbered scarcely one hundred thousand effective men.

The resolution, unsurpassed bravery and skill, with which the Confederate leaders conducted this contest, is shown by the fact, that out of 600,000 men in the field about 500,000 were lost to the service. At the close of the war, the 100,000 Confederates were opposed to one million Federal troops.

Your approval or disapproval of this calculation is most respectfully solicited. The distinguished ability with which you discharged the responsible and arduous duties of Adjutant General of the Confederate army, qualifies you above every other officer of the late Confed-

erate States army, to decide how far such calculations may approach to accuracy.

With great respect and the highest esteem,
I have the honor to be,
Your obedient servant,
JOSEPH JONES, M.D.,
Secretary and Treasurer of Southern Historical Society and Professor of Chemistry in Medical Department of University of Louisiana.

NEAR ALEXANDRIA, VA., August 29th, 1869.

DR. JOSEPH JONES, Secretary and Treasurer of the Southern Historical Society, New Orleans, La.

DEAR SIR: I have had the honor to receive your kind and interesting letter of the 27th inst., and beg that you will accept my best thanks for the same.

I have closely examined your several statements in respect to the Confederate military forces, during the late war, as well as the casualties incident thereto, and I have come to the conclusion, from my general recollection, which those statements have served to enlighten, that they must be regarded as nearly critically correct. Most of the returns, from which you most probably have derived your information, must have passed through the files of my office in the Confederacy, and if reference could be made to all the records of that office, they would, I have no doubt, enable you to give nearly a complete history of the strength and operations of our armies in detail. The files of that office which could best afford this information, were carefully boxed up and taken, on our retreat, from Richmond to Charlotte, N. C., where they were unfortunately finally captured, and as I learn, are now in Washington, where they are properly arranged in a separate building, with other records appertaining to the Confederacy. I presume, that by proper management, reference might be had to them. Indeed, I had, at one time, contemplated making an effort to renew my acquaintance with those records, by a personal application to the authorities in Washington, but I finally abandoned the idea. * * * * *

It would afford me much pleasure to furnish you with the information in the tabular form you have suggested, but it would be quite impossible for me to do this without reference to the records. I can only state from general

recollection, that during the two last years of the war, the monthly returns of our armies, received at my office, exhibited the present active force in the field as nearly one-half less than the returns themselves actually called for, on account of absentees by sickness, extra duty, furloughs, desertions and other casualties, incident to a campaign life. These returns were kept with great secrecy, in order to prevent the enemy from becoming acquainted with our weakness. Another disadvantage was also felt in the limited number of our suitable weapons of war, and I believe it will be found on examination, that the most approved and tried arms in the hands of our troops were captured from the enemy in battle. These and many other incidents of a like nature, if brought to light, would exhibit the greatest disparity between the two opposing forces, if not alike in the number of troops, as you have exhibited in your tables, at least of sufficient importance to satisfy every unprejudiced mind, that we were constantly laboring throughout the contest, under every possible disadvantage.

I perceive by the printed prospectus of the "Southern Historical Society" which you were so kind as to send me, that time must be given in collecting the necessary facts, which are to be the basis of this important work before it shall be prepared and given to the public. To this end, it will be my endeavor to contribute from time to time, such facts as I may be enabled to collect and as may be deemed of consequence by the Society.

With great respect,
I have the honor to be,
Your obedient servant,
S. COOPER.

After careful investigation, we were convinced that authentic facts, illustrating the history of pyæmia and the associated diseases supervening upon gun-shot wounds, and surgical operations, could be determined only by a personal inspection and examination of the sick and wounded in the field and general hospitals, and by personal inquiries amongst the Confederate medical officers.

We will proceed to give the general results of these investigations. As the most important and extensive mili-

tary operations commenced and were carried on in Virginia, the investigations were commenced in this department and in those hospitals which were most nearly connected with the large armies and important battles.

The General Hospital of Charlottesville, Virginia, was established a short time before the first battle of Manassas, which was fought July 21st, 1861. Some time previous to this, a hospital for the treatment of South Carolina volunteers had been established at this place, by Dr. Robert W. Gibbes, Surgeon General of South Carolina. The General Hospital of Charlottesville, Virginia, occupied a central, and at the same time, what was truly an advanced position throughout the war of 1861–65; and from its geographical position and relations to the grand armies of the Shenandoah, Potomac, and of Northern Virginia, and to the great battles, as well as from its ample accommodations and skillful management, under the supervision of experienced surgeons, it received more than its just proportion of seriously sick and severely wounded. For these reasons, this was one of the best fields for medical observation in the Southern Confederacy; and the carefully collected and preserved records under the intelligent action and supervision of Professors Cabell and Davis, of the University of Virginia, furnished the most reliable data for the determination of many important points in the history of various diseases. No better field could be selected for the investigation of the origin and progress—in the Confederate armies serving in Virginia—of the diseases supervening upon gun-shot wounds.

Dr. James L. Cabell, Surgeon in Charge, and Dr. John S. Davis, Surgeon in Charge of Division No. 1, observed no cases of true hospital gangrene, amongst the large number of severely wounded (between 400 and 500) received from the first battle of Manassas, July 21st, 1861.

According to the *official report* of General Joseph E.

Johnston, ot the battle of Manassas, the loss of the army of the Potomac was 108 killed, 510 wounded, 12 missing: that ot the army of the Shenandoah was 270 killed, 979 wounded, 18 missing. Total killed, 378; do. wounded, 1,489; do. missing, 30.

The losses fell heaviest upon the army of the Shenandoah, for General Beauregard, in his official report, gives the effective force of all branches of the army of the Potomac, on that eventful morning, including the garrison of Camp Pickens, at 21,833, and 29 guns; and the effective force of the army of the Shenandoah ready for action on the field, at 6,000 men and 20 guns. Smith's brigade and Fisher's North Carolina came up later, and made the total of army of Shenandoah engaged of all arms, 8,334. Hill's Virginia regiment, 550, also arrived, but was posted as reserve to right flank.

Near one-third of the entire number of wounded from this, the first great battle in Virginia, were treated in the General Hospital of Charlottesville. It is therefore a fact of importance in the history of hospital gangrene in the Southern service, that it was absent from the first large body of wounded, treated at this hospital. A large portion of the wounded from the first battle of Manassas were treated at Culpepper Court-House. I have instituted inquiries amongst various Confederate surgeons who were present at the battle of Manassas, to determine whether any case of hospital gangrene occurred amongst the wounded, and in all cases the result was the same—no case of hospital gangrene was observed.

Dr. A. M. Fauntleroy, formerly surgeon of General Joseph E. Johnston and staff, from June, 1861, to July, 1863, inspected the wounded from the battle of Manassas at Culpepper Court-House and at Warrenton, and notwithstanding his favorable position for extended observation, neither saw nor heard of any case of hospital gan-

grene until after the battles around Richmond in 1862. My friend and former colleague, Dr. H. V. M. Miller, Surgeon of the celebrated 8th Georgia regiment, in like manner informed me that no case of hospital gangrene, had come under his observation, or to his knowledge, after the first battle of Manassas, nor during the first twelve months of the war in Virginia. We deem it to be unnecessary to further multiply testimony to the same effect.

After careful examination of all the records of the General Hospital at Charlottesville, I find that the first case which bears any resemblance to hospital gangrene, occurred in the month of September, 1861, more than two months after the battle of Manassas; and the disease supervened upon a specific ulceration, in no manner connected with gun-shot wounds.

No other case of hospital gangrene, as appears from the hospital records, and from the testimony of Doctors Davis and Cabell, occurred until the early part of the summer of 1862, after the battles of Cross Keys and Port Republic. These battles were fought in the valley of Virginia, on the 8th and 9th of June, 1862. According to the official report of General T. J. Jackson, the casualties were 16 officers killed, 67 wounded and 2 missing; 117 non-commissioned officers and privates killed, 862 wounded and 32 missing, making a total loss of 1,096. Several hundred, or about one-half of those wounded from the army of General Jackson, were sent to Charlottesville; a portion being treated in the General Hospital and the remainder in the buildings of the University, which had been seized as a field hospital by the Medical Director of the Army of the Valley of Virginia. Hospital gangrene appeared amongst this number of wounded, but the disease prevailed to no great extent, and yielded readily to treatment. The University build-

ings had been vacated as a general hospital in September 1861; they were, however, again occupied as a *field* hospital by the surgeons of General Jackson, on the ninth of June, 1862, after the battle of Port Republic; and more than one thousand sick and wounded crowded into the lecture rooms and dormitories. The buildings were so crowded that it was necessary to erect tents, and many of the slightly sick and wounded lay upon the grass and under the trees.

The mortality was said to have been heavy amongst the wounded of General Jackson's army, treated in the University buildings, which had been proved by the untoward experience after the first battle of Manassas, to be unsuited to the reception of large numbers of wounded. Erysipelas and pyæmia are said to have prevailed to a considerable extent.

The field surgeons of General Jackson's army finally abandoned the University buildings in August, moving the greater portion of the sick and wounded to another post, and leaving the severest cases, which could not be transported, in the General Hospital at Charlottesville.

Amongst the wounded left by the field surgeons, as well as amongst the wounded received into the General Hospital, direct from the battle-field of the 8th and 9th of June, cases of hospital gangrene occurred.

It is important to note, however, that notwithstanding the great fatigue and hardships in long and rapid marches and in obstinate and bloody battles, to which General Jackson's soldiers were subjected, during his celebrated Valley campaign at the early period of the war—notwithstanding the crowding in imperfectly ventilated rooms, and, notwithstanding many unavoidable deficiencies in the arrangement for the comfort and nutrition of wounded, hospital gangrene prevailed to an exceedingly limited extent, and yielded readily to treatment.

But very few of the wounded from the battles around Richmond, (battle of Seven Pines or Fair Oaks, May 31 and June 1, 1862; battle of Mechanicsville, June 26th; of Gainesville, June 27th; Frazier's Farm, June 29th; Wills' Church, June 30th; battle of Malvern Hill, July 1st, 1862), were received at Charlottesville. This large body of severely wounded, numbering about ten thousand, were treated chiefly in the hospitals in and around Richmond, Virginia, and hospital gangrene and pyæmia prevailed to a considerable extent in these large hospitals. Dr. Cabell, who about this time was engaged in organizing extensive hospitals at Danville, Va., informed the author that several cases of hospital gangrene were received from the Richmond hospitals.

A large number of wounded were received into the General Hospital at Charlottesville, from the battle of Cedar Run Mountain, fought by Lieutenant General T. J. Jackson, on the 9th of August, 1862. The official report of the casualties of General Jackson's command in this battle, shows a loss of 19 officers killed and 114 wounded; of non-commissioned officers and privates 204 killed and 946 wounded, with 31 missing, making 223 killed and 1,060 wounded; total loss, killed, wounded and missing, 1,314. Cases of hospital gangrene occurred amongst this body of wounded, but the disease did not spread to any extent, and yielded readily to treatment.

Only a small number of wounded was received at Charlottesville from the battle of Manassas Plains, (August 28th and 29th, 1862); and the wounds were so slight that the patients were immediately forwarded to Lynchburg. A break in the railroad detained the worst cases in this large body of wounded (killed, 1,090; wounded, 6,154; total, 7,244;) at Warrenton, where they are said to have suffered a heavy mortality.

But few wounded were received at Charlottesville from

Sharpsburg, Gettysburg, or from Chancellorsville; the two former battles being too remote, and the supply of wounded from the latter being cut off by a break in the railroad.

After the battle of Fredericksburg (December 13th, 1862), the General Hospital at Charlottesville was filled to its utmost capacity with wounded. The casualties in the First and Second Corps, Army of Northern Virginia, in the battle of Fredericksburg, amounted to 458 killed, 3,743 wounded; total, 4,201. Notwithstanding that this battle was fought, and the wounded were transferred to Charlottesville during severe cold weather, hospital gangrene appeared and prevailed to so great an extent that it was necessary to institute special measures for the isolation of the gangrene cases, and for improved ventilation and sanitary regulations for the wounded generally.

Large numbers of wounded passed through Charlottesville after the battle of the Wilderness, and about one thousand of the worst cases entered the hospital. Hospital gangrene made its appearance amongst this body of wounded, and spread with such rapidity that it was necessary to isolate the patients in tents and to institute rigid sanitary regulations. Large bodies of wounded were also received from the battle of Spottsylvania Court House, and from the great cavalry fight at Trevilian's Station; and hospital gangrene continued to prevail in like manner.

Hospital gangrene was more abundant and more severe after the battles of the Wilderness, (May 5th and 6th, 1864), and Spottsylvania Court-House, (May 12th, 1864), than after any previous battle.

From the preceding investigation we draw the important conclusion: that *hospital gangrene did not appear amongst the wounded of the Confederate forces serving in*

Virginia until after the battle of Port Republic, June 8th and 9th, 1862*; and, that from this date it gradually increased in amount and severity until the close of the war.*

In this healthy, elevated locality, and in this well conducted hospital of Charlottesville, under the management of experienced and conscientious medical officers, neither erysipelas nor hospital gangrene were fatal diseases, and recovery was the rule.

No data exist for the determination of the exact number of cases of hospital gangrene which occurred amongst the sick and wounded treated in the General Hospital of Charlottesvillle, during the war of 1861–5; and consequently it is impossible to determine the ratio of deaths to cases. No case of hospital gangrene was reported upon the official reports of the sick and wounded until the month of July, 1863, more than one year after the appearance of the disease in the hospital.

The following are the numbers of cases of hospital gangrene, reported from 1861 to 1865: July, 1863—4 cases; August, 6; September, 1; October, 2; November, 9; December, 4. January, 1864—1 case; February, 1; March, 1; April, 1; May, 3; June, 19.

No death was reported upon the sick report as due to this disease, although 52 cases appear upon the sick report, and 13 fatal cases, from the different forms of gangrene, upon the surgical register. These discrepancies are explained upon the ground that hospital gangrene, being almost always a supervening disease, in an advanced hospital like the one now under examination, the medical officers in many cases, failed to report the cases, the patients having been entered under the head of gun-shot wounds. In like manner, the deaths from hospital gangrene, appeared upon the register and the sick reports as due to gun-shot wounds.

With reference to pyæmia, as we have before stated,

a large number of severely wounded were received into the small, low, one-story dormitories, and into the lecture rooms of the University of Virginia, after the first battle of Manassas.

Pyæmia and erysipelas appeared at an early day, and prevailed to a considerable extent among the wounded crowded into the badly ventilated dormitories and lecture rooms, and the spread of these diseases was only arrested by the abandonment of the University buildings as a general hospital, and the distribution of the wounded in private quarters.

The immediate improvement in the condition of the wounded, which followed the breaking up of the University Hospital, clearly indicated that the origin and spread of pyæmia and hospital gangrene, was due to crowding and imperfect ventilation, rather than to any preëxisting condition of the wounded men, who were, as a general rule, well-fed, and in high health at the time of the reception of the injuries. In two cases in which chills—supposed to have been the initiatory symptoms of pyæmia—had occured, improvement and final recovery followed the immediate removal to a pure atmosphere. These were the only supposed cases of recovery, out of near twenty cases of pyæmia, occurring amongst the wounded of Manassas. All the cases of amputation—after this battle—at Charlottesville, with the exception of two, terminated fatally from pyæmia.

In cases of recovery, without the recurrence of the chill, it is difficult to decide positively whether the cases were pyæmia; especially as when in the two cases just alluded to, there was no icteric hue, and no collection of pus visible. In soldiers who have been exposed, more or less to the action of malaria, there is always an additional ground of doubt about the correctness of the diagnosis in such cases.

The experience of the Confederate surgeons at Charlottesville, led to the opinion, that when a number of cases of pyæmia were crowded together, the atmosphere becomes poisoned, and is capable of rapidly contaminating the freshly wounded who are introduced into the infected wards. This view appeared to be sustained by the fact, that the number of cases of this disease was relatively increased after every one of the great battles, when the hospitals were crowded with wounded.

The results of the *post mortem* examination of the bodies of those who had died from pyæmia, led to the abandonment of the view taught in the schools, that this disease was the result of phlebitis, and the observers were forced to the adoption of the belief that the disease may exist without any apparent inflammation of the coats of the veins. In a case of pyæmia, supervening upon a gunshot wound of the knee, the veins were carefully dissected out after death, and the femoral vein was found to be distended with pus. The dissection was not made beyond Poupart's ligament; the pus extended and distended the vein up to this ligament, and probably beyond. In this case all the tissues of the thigh, and the muscles and inter-muscular spaces, were infiltrated with pus.

The wounded were much more liable to pyæmia in the large hospital buildings, where large numbers were congregated together, than in the small pavilion wards containing not more than twenty or thirty patients each.

I carefully examined all the hospital records, to determine the relative proportions of cases of pyæmia, to the number of wounded treated, and also the relative mortality; but it was impossible to arrive at any accurate results, from the fact that pyæmia does not appear amongst the list of diseases until the month of June, 1863, nearly two years after the first battle of Manassas.

In fact this disease did not appear in the printed list of diseases, upon the Confederate reports of sick and wounded, until a comparatively late period of the war.

The following numbers of cases were reported during the months specified: 1863—June, 1 case of pyæmia; August, 1; September, 1; October, 1; November, 2. 1864—May, 8 cases of pyæmia; June, 3. [One death from this disease reported October, 1863; in November, 1863, 2 deaths]. During the entire period of the war—1861–65—only 17 cases of pyæmia were reported, with only 3 deaths, upon the monthly and quarterly reports. The careful examination of the surgical register, and of the daily register of sick and wounded cases of interest recorded by the surgeons and assistant surgeons in charge of the different wards, furnishes the outlines of 37 cases of undoubted pyæmia, every one of which terminated fatally. No case of pyæmia appears to have been recorded at length, previous to August 1862, one year after the first battle of Manassas. The thirty-seven fatal cases appearing upon the surgical and daily reports, do not therefore include the score of cases which terminated fatally in 1861, after the first battle of Manassas. We can only account for these inaccuracies upon the supposition that, as almost all, if not the entire number of cases of pyæmia supervened upon gun-shot wounds, amputations and various operations after the patients had been entered, under these various heads upon the hospital register; when death occurred, the cause of death was simply referred to the original wound or disease. Special provision for the entrance and classification of supervening diseases was not made in the printed reports until near the middle of 1864. The records of the Charlottesville General Hospital were kept with as much care and accuracy as those of any other hospital in the Confederate States. These facts therefore are of great interest in

warning the statician against deducing conclusions as to the relative number and mortality of such supervening diseases as pyæmia and hospital gangrene in the Confederate service.

The accompanying table illustrates the number and mortality of the principal diseases in the General Hospital of Charlottesville, Virginia.

This tabular statement of the diseases treated in the General Hospital of Charlottesville, Virginia, presents several points of interest.

This table illustrates the imporant fact that *typhoid fever* prevailed to a greater extent in the commencement of the war, and progressively diminished, thus following the course of the great *exanthems*, and especially of measles. It would appear that the contact of large bodies of men, unaccustomed to camp life, in the earlier periods of the war, disseminated the typhoid poison. The fact of the rapid diminution of typhoid fever in the army during the progress of the war, also confirms the observation long since recorded: that this disease, as a general rule, attacks but once during life. During the first twenty-six months of the existence of the General Hospital at Charlottesville, (July 1st, 1861, to 31st of August, 1863), a small fraction less than one-fourth of the cases of typhoid fever, or one in 4.15 cases, (24.05 per cent.), terminated fatally. During this period, the ratio of cases of typhoid fever, to the entire number of cases—from all causes—was 8.66 per cent., or one case of typhoid fever in 11.54 cases of all diseases. Whilst the deaths from typhoid fever were more than one-third of the entire number from all causes, or more exactly, one death from typhoid fever in 2.78 deaths; thus giving a ratio of 35.94 per cent. of deaths from typhoid fever. On the other hand, the ratio of deaths from all causes, to the

Cases and Deaths from some of the principal Diseases and Gun-shot Wounds, and Supervening Diseases, Pyæmia, Hospital Gangrene, etc., in the General Hospital, Charlottesville, Va., 1861 to 1865. Consolidated from Official Reports. By Joseph Jones, M.D., formerly Surgeon in the Provisional Army of the Confederate Statee.

MONTH AND YEAR.	Typhoid Fever.		Common Continued Fev'r		Remittent Fever.		Congestive Fever.		Intermittent Fever.		Measles.		Diarrhœa and Dysen'ry		Pneumonia.		Gun-Shot Wounds.		Total from these Diseases.		Total from all other Diseases.		Total from all Diseases.	
	Cases.	Deaths.	Cases...	Deaths.	Cases..	Deaths.	Cases....	Deaths.	Cases..	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.	Cases...	Deaths.
July,..... 1861	284	75	...	...	35	...	1		58		656	8	178	6	48	18	300	35	1555	142	1053	5	2608	147
August, "	74	46	...	...	7	...	...		...		116	4	16	3	6	10	6	21	225	84	104	3	329	87
September, "	150	24	...	...	18	...	1		7		104	...	43	...	12	2	9	6	365	32	147	...	511	32
October, "	195	27	...	...	21	...	...		31		51	...	31	...	14	2	15	...	358	29	198	4	556	33
November, "	100	15	...	...	14	...	...		12		22	2	31	...	41	7	..	...	220	24	228	7	448	31
December, "	63	6	...	...	8	...	1		9		7		19	1	22	3	7	...	136	11	193	1	329	12
January, 1862	30	4	...	...	3	...			5		...		18	1	24	15	2	...	72	20	154	1	226	21
February, "	34	5	...	...	6	...			2		1		66	...	21	...	1	...	131	5	169	1	300	6
March, "	14	1	...	...	3	...			13		1		56	...	21	4	2	...	110	5	180	4	290	9
April, "	60	8	...	...	4	...			22		48	1	61	2	80	25	3	...	278	36	261	8	539	44
May, "	32	20	1	1	1	...			12		20		67	3	35	36	16	...	184	60	245	7	429	67
June, "	23	13	...	...	6	...			13		14		95	...	20	12	266	12	437	37	317	16	754	53
July, "	33	11	.	...	10	...			6		...		73	...	9	3	41	7	172	21	165	5	337	26
August, "	19	10	...	...	4	...			6		...		45	2	2	...	388	21	456	33	222	2	682	35
September, "	7	2	...	...	2	...			...		1		9	...	1	...	764	18	784	20	102	3	886	23
October, "	5	3	...	...	3	...			4		1		12	1	1	1	56	3	82	8	258	3	340	11
November, "	21	7	...	...	2	...			46		8		54	2	38	15	46	2	215	26	701	6	916	32
December, "	21	7	1	...	6	...			8		2		45	3	118	27	158	8	359	45	634	9	993	54
January, 1863	16	4	...	...	3	...			10		1		42	4	49	11	42	7	162	26	439	14	601	41
February, "	12	5	1	...	2	...			8		2		35	3	23	7	24	3	107	18	205	8	312	26
March, "	6	2	2	...	...	...			4		...		27	1	15	6	31	4	85	13	113	4	198	17
April, "	3	3	1	...	...	...			4		...		21	...	6	8	14	1	49	12	75	2	124	14
May, "	15	5	1	...	11	...			18		1		115	1	14	2	66	1	241	9	331	2	572	11
June, "	14	3	...	...	11	...			14		2		100	1	13	2	77	1	231	7	186	1	417	8
July, "	11	1	3	...	8	...			13		...		49	2	6	...	444	4	534	7	287	...	821	7
August, "	55	5	5	...	32	...			13		2		51	4	8	1	93	1	257	11	192	...	449	11
Total during 26 months, July 1861 to Aug. 1863	1297	312	15	1	118	...	3		363		1060	15	1359	41	601	217	2843	58	8209	663	7159	115	14,966	868
September, 1863.	20	7	2	...	9	...			17		...		67	1	2	...	47	2					271	10
October, "	18	2	...	...	4	..			8		...		34	2	9	1	176	2					397	7
November, "	5	3	2	...	10	...			7		...		44	2	16	2	68	1					301	10
December, "	15	3	4	...	4	...			18		3		72	5	29	6	84	9					469	27
January, 1864	22	13	2	...	2	...			9		9		46	9	30	8	60	1					401	35
February, "	2	1	...	...	...	...			1		5		5	2	11	3	50	...					145	9
March, "	2	1	...	...	1	...			5		3		5	...	13	2	75	..					249	6
April, "	7	2	1	...	8	...			23		12		67	3	30	3	9	...					481	11
May, "	4	3	1	...	3	..			19		7		51	5	27	6	738	52					1152	68
June, "	15	5	1	...	17	...			20		27	3	323	3	8	2	479	35					1344	50
July, "	...	...	...	...	...	...			...		...		...	...	...	...	...	...					.....	...
August, "	...	...	...	...	...	...			...		...		...	...	...	...	...	..					.....	...
September "	...	...	...	...	...	...			...		...		...	...	...	...	...	...					.....	...
October, "	6	3	...	...	6	...			18		2		31	3	3	1	310	5					490	13
November, "	10	2	1	...	3	...			6		5		27	2	11	2	168	1					321	7
December, "	3	...	...	...	5	...			9		3	1	27	3	10	1	76	2					267	9
January, 1865	2	...	1	...	...	...			8		...		12	...	2	...	57	1					148	1
February, "	1	...	...	...	...	...			4		1		2	...	3	...	69	1					137	2
Total during 15 mos., Sept. 1863 to Feb. 1865.	132	54	15	1	72	...					77	4					2548	112					265	
Total during 41 mos., July, 1861 to Feb., 1865.	1420	357	30	1	190	...	3				1137	19					5391	270					1133	

SUPERVENING DISEASES.

Total Supervening Diseases.		Typhoid Fever.		Rubeola.		Erysipelas.		Diarrhœa Acute.		Diarrhœa Chronic.		Dysentery Acute.		Dysentery Chronic.		Pneumonia.		Pyæmia.		Tetanus.		Hospital Gangrene.	
Cases....	Hem'rge Scorby	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.
11																							
22		4	...	...	...	1	...	...	...	2	...												
28		3	..	...	...	3	...	...	...	6	...			1	...								
44		2	..	...	...	7	...	...	...	...	...	3	...	...	...								
31	1	2	...	...	...	3	...	...	...	...	...	4	...	...	...								
22		8						1	...	4		2	...	...	...	...	...	1				1	
13	2	1				2				...								1				1	
27	2	..				7				...	...	1						2				9	1
30	2	5				5				1								3				1	1
24	..	6				3												5				1	1
23	...	1	...	2	...	2												1				1	1
17	...	2				4												3		1			
6	..	2				1												2				1	1
53	13	...				20												5		8	3	3	1
70	12	2				22						1						2		3	1	19	

entire number of cases treated, was 5.79 per cent., or one death in 17.24 cases of all diseases treated.

During the first twenty-six months, nearly one-third (31.9 per cent.) of the cases of pneumonia terminated fatally; that is, one death occurred in every 3.12 cases of pneumonia. The ratio of deaths from pneumonia, to the entire number of deaths from all causes, was 23.8 per cent., or one death from pneumonia in 4.17 deaths from all causes, pneumonia included. On the other hand, the cases of pneumonia were less than one-third of the entire number of cases, (4.32 per cent.) or one case of pneumonia in 23.13 cases of all diseases, pneumonia included.

Typhoid fever and pneumonia together caused 519 deaths, out of 868 deaths from all causes, during the first twenty-six months—these diseases included. That is, typhoid fever and pneumonia caused more than one-half, or 59.9 per cent. of the deaths from all causes—gun-shot wounds included—or one death from typhoid fever and pneumonia occurred in every 1.67 deaths. On the other hand, during this period, the cases of typhoid fever and pneumonia were only 12.98 per cent. of the entire number of cases; and the ratio of deaths from all causes, to the entire number of cases, was 5.79 per cent., or one death in 17.24 cases of all diseases treated.

During the first twenty-six months, the largest number of cases of typhoid fever occurred in July, August, September and October, 1861, and during the first thirteen months, July, 1861—July, 1862 inclusive—1094 cases of typhoid fever entered the hospital; whilst during the last thirteen months, August, 1862—August, 1863 inclusive—only about one-fifth the number of cases of typhoid fever entered, or more exactly 203 cases. During the first thirteen months, 253 deaths from typhoid fever occurred; whilst during the last thirteen months, only 60 deaths, or not quite one-fourth the number of the first thirteen months.

During the first thirteen months, one thousand and forty cases of measles were entered; whilst during the last thirteen months of the first twenty-six months, only twenty cases of measles were recorded.

This disease therefore, like typhoid fever, decreased as the war progressed. As a general rule, mankind are afflicted with these diseases but once during a life-time; and during this war both diseases appear to have been propagated by the contact of large masses of men. Whilst these two diseases are, without doubt, due to distinct and wholly different poisons, still they have in this war been associated to a certain extent in the time and circumstances of their orign and diffusion.

From the hospital records, as well as from the testimony of the medical officers, no case of *true typhus* was treated in the General Hospital of Charlottesville. This fact is of importance when we consider the relations of this hospital to General Lee's army throughout the war.

Typhoid fever continued progressively to diminish to the close of the war. Thus the average number of admissions of typhoid fever each month, during the first twenty-six months, was 49.8; whilst the average monthly admissions during the last fifteen months of the war was only 8.8.

The cases of gun-shot wounds treated during the first twenty-six months, were 18.99 per cent. of the entire number of cases; and the deaths from gun-shot wounds was 17.62 per cent. of the entire number of deaths from all causes; and 5.44 per cent. of the entire number of cases of gun-shot wounds treated. *It will be seen that typhoid fever and pneumonia caused a considerably larger proportion of deaths than gun-shot wounds.*

The imperfection of the record of supervening diseases, is shown not only by the late period of its commencement, (April, 1862), but also by the fact that no deaths

are referred to supervening diseases; notwithstanding that they were in certain diseases—as tetanus and pyæmia—universally fatal.

Whilst therefore typhoid fever and measles were clearly referable to the action of specific poisons, which affect the organism but once; and whilst pneumonia was intimately dependent in its production upon exposure and the vicissitudes of the climate, on the other hand, pyæmia and hospital gangrene were dependent in their origin and spread chiefly upon hygienic causes and the preëxisting state of the constitution.

ART. II.—ON THE LOCAL AND CONSTITUTIONAL TREATMENT OF SLOUGHING WOUNDS. By M. H. HOUSTON, M.D., Richmond, Va.

For more than thirty years, it has been my practice to treat all wounds, which necessarily involved a loss of tissue, in subjects, even the most healthy and robust, by local stimulation. The agent, generally used for that purpose, was alcohol, in various degrees of dilution; although other articles were sometimes employed.

In all such wounds, there must be some point at which death ceases and life begins. In the immediate vicinity of this line of demarcation the feeble vitality of the partially paralyzed capillary vessels and nerves fibres may be extinguished by the use of sedatives, or it may be aroused to healthy activity by properly regulated stimulation. This is the theory upon which the practice is founded, and if the theory itself be true, it follows as a consequence, that the accepted practice of cold water applications, now so generaliy in vogue, must have the effect of increasing, whilst gentle stimulation will have the effect of diminishing the resultant cicatrix.

An admirable opportunity for testing the effects of the

two modes of treatment presented itself in Winchester, Va., at the commencement of the late war. A stout, healthy soldier was wounded by the accidental discharge of a musket, the ball passed through the anterior portion of both thighs, inflicting two flesh wounds, as nearly symmetrical as possible. I saw him a few minutes after the accident. The ball had barely buried itself in both thighs, leaving a small bridge of skin over each wound, which was divided in both, as it was evidently deprived of vitality. I at once determined to treat one wound by the local application of whisky, and the other with the ordinary cold water dressings. At the end of twenty-four hours the difference in the appearance of the two wounds, was very striking: the one dressed with whisky having had its dimensions contracted at least one-fourth more than the one dressed with water. For the next four or five days the progress of improvement was equally in favor of the former; suppuration having commenced sooner, the granulations presenting a firmer and more healthy appearance, the pus being less abundant and more laudable, whilst all the indications pointed to a much more speedy filling up of the wound, with a less extent of cicatrix. At this time the case passed from under my observation, and I am unable to give the particulars of its termination.

During the late war, my attention, in common with that of other Hospital Surgeons, was painfully attracted to the subject of sloughing wounds. The ordinary modes of treatment, although having the effect, in many cases, of arresting the destructive process, failed in too many instances, not to render some more uniformly successful mode of treatment desirable. Nitr. argent—strong nitric acid, and the actual cautery were the local agents generally used, and they had the effect of destroying still further the living tissue, before their good effects

could be manifested. The capillary vessels in proximity to the tissues thus destroyed, were excited to increased activity, by which the slough was thrown off, leaving a comparatively healthy-looking granulating surface exposed to the action of the atmosphere. Unless this transiently excited state of the minute vessels could be sustained by a *vis a tergo*, imparted to the general system, by suitable tonics and stimulants, the vessels themselves soon relapsed into their former enfeebled condition, and the sloughing was sooner or later renewed. Such was the history of many of the cases which fell under my observation. The sloughing was again and again renewed after the separation of the eschar.

The considerations embodied in the foregoing remarks, led me to conclude that the use of escharotics was not only useless, but that their application did positive harm, by destroying more tissues than was absolutely necessary. In addition to this, however, the new granulations partook more or less of the fungus character which pertains to those resulting from burns, and their exposure to the action of the atmosphere, before they had acquired strength to resist the impression of a sedative poison, rendered the renewal of the sloughing almost inevitable. It hence struck me that a more rational practice would be found in a steady, uniform gentle stimulation of the parts in proximity to the dead and dying tissues.

Although the local treatment was worthy of attentive consideration, it was evident, from the general condition of the patients, that the constitutional treatment was an object of paramount importance. Whilst in many cases the usual treatment by iron, quinine, brandy, turpentine, opium, and other tonics and stimulants had the effect of imparting such tone to the general system as prevented the recurrence of sloughing, yet the number of cases in which it failed was very great, and it became

a desideratum to find some remedy, the use of which would be attended with more uniformly favorable results. Having, for many years, been a close observer of arsenic, as a direct excitant of the capillary vessels, in every part of the body, as well as of its general tonic, roborant and exhilarating effects, my mind was at once directed to it as an agent, probably capable of meeting all the required indications.

At a somewhat earlier period in my profcssional life, Dr. Stone, of New Orleans, stated, in conversation, that he considered arsenic as altogether the most reliable remedy for the various forms of neuralgia, and that, in his opinion, its best effects were never obtained until it produced puffiness of the eye-lids and other evidences of arsenical intoxication. He hence recommended it to be used in very full doses. Although this opinion of Dr Stone may be well founded as far as certain forms of neuralgia are concerned, yet my subsequent experience led me to the conclusion that, as a general rule, the best effects of the remedy were manifested when it was gradually introduced into the system, in quantities short of producing its toxical effects, but to the extent only o, keeping up as nearly as possible a perfectly healthy excitement of the capillary vessels. That arsenic can be thus introduced into the system, and its effects maintained for a length of time without injury, is proved by the well-known fact that many ladies have used it habitually. and with apparent impunity, for the sole purpose of hightening and improving their complexions.

Governed by these considerations, I felt justified in adopting an entirely new mode of treatment, both local and constitutional, in any sloughing wounds which might be placed under my control. Unfortunately, opportunities soon offered for testing the merits of the practice. In the Summer of 1862, my attention was directed by

Dr. Shipley to a case of gun-shot wound of the thigh, in which sloughing had commenced about ten days or two weeks previously. The patient had been treated locally by the use of strong nitric acid, and constitutionally with iron, quinine, brandy, opium and nutritious diet. Each application of the acid had arrested the sloughing process for the time, but very soon after the separation of the eschar, and the exposure of the granulating surface to the action of the atmosphere, the sloughing had recommenced. The wound was now about six inches in length by four in breadth, and extended through the cellular tissue to the muscles beneath. In order to facilitate the percolation of the alcohol to the living tissues, the slough was, as far as possible, removed, with a pair of curved scissors, and the whole cavity filled with lint, saturated with whisky of the ordinary strength. The whole was covered with oil-silk, and the nurse directed to keep the lint constantly wet with the whisky without removing the lint. The patient was ordered to take two drops of Fowler's solution, in a tea-spoonful of whisky, every two hours, with a crust of bread or some other simple article of diet. Nutritious diet was directed to be given as far as the patient's stomach would bear it. All other treatment, whether local or constitutional, was suspended. Under this treatment the patient improved from day to day; the destructive process was arrested, the slough separated, leaving a healthy granulating surface beneath, the general health speedily improved and the wound filled up rapidly, without any farther tendency to sloughing. The same treatment, both local and general, was kept up until the wound had nearly cicatrized.

Other cases presented themselves, from time to time, which were similarly treated and with like results. About the same time, a case was reported to me by Dr.

Spencer, which proved the efficacy of the arsenical treatment, in a very striking manner. I had recommended to him its trial, in a case which had resisted the nitric acid, and actual cautery locally, and the usual routine of tonics and stimulants internally. The sloughing was arrested and the wound was filling up rapidly with healthy granulations, when he suspended the use of the arsenic, thinking it no longer necessary and fearing that its poisonous effects might be developed. Within three or four days the granulations lost their florid healthy appearance, and assumed that peculiar grey livery, which so certainly portended the commencement of sloughing. Sloughing did occur, and he again had recourse to the arsenic. A second time the morbid process was arrested and the wound restored to healthy granulation, when he determined again to suspend the use of the remedy in order to ascertain whether the same result would follow. Every thing else connected with the treatment was carefully persevered in, even to the tea-spoonful of whisky every two hours, notwithstanding which the sloughing returned, in about the same length of time, and to about the same extent that it had done before. He now returned to the use of the arsenic, and continued it without farther trouble or interruption until the completion of cicatrization.

During this time Dr. St. Geo. Tucker gave the arsenical treatment a trial, in numerous cases, and reported to me that it was altogether more satisfactory in his hands than any other treatment he had ever seen tried. He informed me that the patients themselves, in his wards, were so satisfied of the efficacy of the treatment, that when they saw their wounds assuming an unhealthy appearance, they begged him to give them the benefit of the "little drops."

Although very many cases had been previously treated

with success, in the manner above indicated, it was not until the time of Hunter's march on Lynchburg in 1863, that an opportunity was afforded for testing the efficacy of the arsenic, upon a scale, at once more extended and systematic. At that time all the patients, from the hospitals on the hill, were removed to those in the lower part of the city, and among the number thus removed, were twenty-seven cases of sloughing wounds, varying of course, in their site, duration and extent. These, with five others, taken from the wards of my own division of the hospital, in all thirty-two—were placed in one ward, with a capacity barely sufficient to contain them.

In a hygienic point of view, the change could scarcely have been considered for the better. The buildings on the hill were esteemed to be the best in the city. They were kept scrupulously clean and enjoyed the benefit of fresh country air from the South, East and West—whilst their inmates were furnished with the best food within reach of our hospital accommodations. The building to which they were removed was in a deep ravine, in the lowest part of the city, and presented only the single advantage of being, by no means air-tight, and of having a stream of living water running under its foundation. The day after their admission, I invited a number of medical gentlemen to visit these patients, and they all declared that they had never seen so deplorable a set of cases assembled in any one room. The general features were very much the same in all. Dusky, sallow complexions, painfully anxious, sunken expressions of countenance, extreme mental despondency, with loathing of solid food and progressive emaciation were the essential characteristics of the whole. With the exception of differences caused by the site and the varied duration of the sloughing process, there was much uniformity in the

general appearance of the wounds themselves. This appearance must be familiar to most members of the profession and need not now be described.

The thirty-two patients were all subjected to precisely the same mode of treatment. Their wounds, after being cleansed as far as possible, were filled with lint saturated with common whisky and covered with oil-silk. Directions were given to the nurse to pour in the whisky as soon as there was the slightest tendency to dryness. Fresh lint was introduced only once in the twenty-four hours, unless circumstances rendered a more frequent change imperative. Each patient was directed to take two drops of Fowler's solution in a tea-spoonful of whisky every two hours during the day, which would thus give to each one, on an average, from sixteen to eighteen drops during the twenty-four hours. Strict measures were adopted to secure the cleanliness of the patients, not only in their persons, but in their bedding and all other surroundings. When their wounds were dressed, the dressings were thrown into a bucket of fresh water and at once consigned to the stream of water below. The diet was directed to be the most nutritious compatible with the enfeebled condition of their digestive organs.

Under this treatment. the improvement in the condition of all the patients was manifested in the first forty-eight hours, and when, at the end of two weeks, they were visited by some of the medical gentlemen who had seen them immediately after admission, much astonishment was expressed at the improvement which had taken place. The sloughing had been arrested, the sloughs themselves had separated, and the wounds presented a clean, firm healthy, granulating surface. But a more marked change had taken place in the general aspect of the patients. The skin had cleared up, and instead of the sallow, dusky complexions, which before

existed, the lips and cheeks were now mantled with the blush of arsenical saturation, and the eyes which had before been lustreless, from extreme despondency, were now rendered bright by the revival of hope. The appetite for solid food, which had before been lost, was now revived and in many cases had become voracious. In short, within this limited period, these men had become both mentally and physically, almost a new set of beings

It is not deemed necessary or proper to give in detail, the history of any one of these cases. It is sufficient to say, that of the thirty-two patients admitted, twenty-six went on to steady convalescence, and were discharged on furlough, from time to time, as it became evident that they were free from the danger of a relapse. Of the six remaining cases, five had inter-current disease of some kind, which rendered a suspension of the arsenical treatment advisable. Of these five, four had a return of the sloughing, but whether this was due to the effects of disease, or to the suspension of the medicine, it was impossible to determine. At all events the sloughing ceased when the arsenic was renewed, and the patients ultimately recovered.

The sixth patient had, on admission, a sloughing wound extending about seven inches, in front and on each side of the tibia. The bone was denuded and the periosteum destroyed—under treatment the sloughing was arrested, and the edges of the wound assumed a healthy appearance. During the whole of the tedious process of exfoliation, the patient continued the use of the arsenic, with considerable regularity, and it seemed to have the effect of maintaining his general health, and of keeping the edges of the wound in a comparatively healthy condition. After the exfoliation of the bone, but before the complete cicatrization of his wound, this patient was transferred to another hospital and I lost sight of his case.

In this connection it may be proper to remark, that the arsenic produced no unpleasant effect, in any of the numerous cases in which it was administered. The gradual manner in which it was introduced into the system, whilst avoiding its injurious action upon the stomach, gave ample time for its elimination and the object was apparently attained by keeping the system constantly under its influence, without any undue accumulation. When the treatment was commenced, the belief was expressed by some of the medical gentlemen, who examined the cases, that the long continued use of the arsenic, even in the small doses indicated, would result in the production of arsenical poisoning. With a view of having some impartial testimony on this subject, I asked Dr. Thornhill, a gentleman of close observation, of ample experience and of eminent skill in his profession, to examine some six or eight of the patients who were last in the hospital, and who had been longest subjected to the effects of the medicine, with the view of determining whether he could detect any of the ordinary signs of arsenical poisoning. After a careful examination he informed me that he could detect no sign, except such as might naturally pertain to a "somewhat exalted state of healthy vitality."

It must not be concluded, from what has been said, that I look upon arsenic as a specific, or that I consider it to be equally applicable to all the varieties of sloughing wounds. Its antiseptic properties are universally recognized and duly appreciated, but it is not to this property that I attribute its efficacy. in the class of cases under consideration. It is to its general tonic and roborant effects, that the remedy owes its chief efficacy, not only in sloughing wounds, but in a great variety of other diseases. It is somewhat remarkable that whilst arsenic has long been considered a specific in many obstinate

diseases of the skin, its use has been mainly restricted to the treatment and cure of that class of affections. It may be safely predicted that any constitutional remedy, capable of curing these obstinate affections, will be found potent for good in a great variety of other chronic diseases. Especially in all local affections, such as indolent and chronic ulcers, where it is desirable to produce and maintain, for a length of time, an exalted state of vitality, in the minute vessels and nerves which surround them, the arsenic will be found to be an invaluable remedy. How it acts after its introduction into the circulation; whether by direct stimulation of the muscular coats of the vessels themselves, or by diminishing the size of the blood corpuscles, thus enabling them to pass into vessels before too small for their admission, is an interesting question, which I do not feel either called upon or competent to decide. For all practical purposes, it is sufficient to know that it has the power, when judiciously employed, of exciting the capillaries and minute nerve fibres, in every part of the body, and that its use will be found advantageous in all those diseases in which it becomes desirable to secure and maintain, in the words of Dr. Thornhill, an "exalted state of healthy vitality."

ART. III.—OPERATION FOR THE RADICAL CURE OF VARICOCELE. By G. W. H. KEMPER, M.D., Muncie, Ind.

About the middle of August, 1869, Dr. J. C. Helm, of this city, asked me to see with him a young man troubled with a varicocele. The patient, A. S., was a single man, aged 21 years. The veins began to enlarge about three years ago, and had gradually increased until the largest sized varicocele was produced. The testicle (left) was atrophied to about three-fourths the size of its companion. The dragging weight constantly called his atten-

tion to his malady, causing a state of melancholy. We agreed that an operation would probably be necessary, but concluded first to try a suspensory bandage, until at least the weather should become more favorable.

The bandage was worn for three months without any good results. After some preparation of the system, we operated on the 20th of November, 1869. We had agreed upon the operation recommended by Prof. Paul F. Eve, in Vol. XIX, of the Transactions of the Am. Med. Association, an abstract of which is given on page 202 of the Am. Jour. of Med'l Sci., Jan. 1869.

Chloroform was administered by Dr. Helm. I pinched up the skin of the scrotum over the left testicle, taking care to exclude the tunica vaginalis, and so secured it with a pair of long forceps, that about four square inches protruded, extending from the abdominal ring to the lower part of the scrotum. This part was excised by a scalpel, and pins inserted near the cut edges of the lower half, before the clamp or forceps was removed. The pins were secured by a figure 8 suture, beginning at the lower part of the cut. The forceps were then removed, and the cord carefully examined; the veins isolated and tied by an *animal* ligature, just sufficiently tight to arrest the circulation. The ends of the ligature were cut short and left in the cavity to be absorbed, and the balance of the wound closed by the twisted suture. About fourteen pins were inserted.

No difficulty was experienced until after the operation was completed, when hæmorrhage ensued from a small artery in the cellular tissue near the abdominal ring. We attempted to arrest it with per sulph. of iron, but failing, I removed two or three pins, and, with the kind assistance of my friend, Dr. W. J. Andrews, placed a ligature around the bleeding artery. This should have been tied at first, for although the hæmorrhage was insignifi-

cant in quantity, it flowed into the scrotum, and was sufficient to distend it and give me some trouble afterwards.

November 21st. No constitutional disturbance. The scrotum greatly swollen and ecchymosed. Cold water dressings used. Had to draw off urine with catheter.

November 22. Progressing favorably. Applied locally, ℞—Tinct. arnica, ʒiii, aqua Oi. Drew off urine.

Nov. 23d and 24th. Slight fever. Bowels moved by cathartics. Local treatment continued. Passed his urine.

November 25th. Inflammation subsiding. A few of the upper pins tore out. Drew off urine.

November 26th. Annoyed to find every pin torn out and the lips of the wound gaping about four inches. *The scrotum was full of clots!* I turned out all that I could easily, but was unable to approximate the edges. Supported the scrotum with bandages, and warm water dressings applied. General condition good. Passed his urine.

November 27th. I removed all the clots and drew the edges together and retained them with stitches and adhesive plaster. From this time forward he rapidly improved, and a week later was moving about the house. Within a month from the time of the operation he was at his business—merchandising. There never was the least unfavorable constitutional symptom in his case; and, but for the clots in his scrotum, caused by the little bleeding artery, I have no doubt but that he would have been up much sooner.

This patient had a very redundant scrotum, and Prof. Eve's operation was well suited to his case. At this date, (Jan. 22d), the operation bids fair to be successful. The veins are hard cords, not being yet absorbed. I regret that I did not remove more of the scrotum. As *a caution to operators, I would say, tie the bleeding vessel at once.*

Insert the pins well back from the edge and apply the ligature firmly around them.

Prof. Eve says of this operation that it is "safe and effectual." I believe it. The great danger existing heretofore in operations for varicocele, namely, phlebitis, is here avoided, and yet the veins are destroyed. Subcutaneous ligation requires *a tactus eruditus* that few of us can claim. Subcutaneous division of the veins, as practiced by Mr. H. Lee, of London, is evidently dangerous, as shown by his case reported to the Clinical Society, of London. (Am. Jour. of Med'l Sci., Oct., 1869. P. 477). "Give me to see, and Ajax asks no more," was the prayer of that ancient hero; and when darkness obscures, *seeing* is just as important to the surgeon as it is to the warrior.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—THE HISTORY OF FOUR CASES OF CHRONIC INVERSION OF THE UTERUS, WITH THE ACCOUNT OF AN OPERATION DESIGNED AS A SUBSTITUTE FOR AMPUTATION. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York.

It is not certainly known whether the condition which we style inversion of the uterus, aud which consists in the turning of the uterus inside out, was understood before the time of Ambrose Paré. Since his epoch, it has been fully described by his successors, and all its pathological features, its various symptoms, and its manifold dangers, have been thoroughly appreciated. From the time of Parè, however, who lived about the middle of the 17th century, to our own, although great advances were made in the scientific departments of the subject, very little was attained in the way of treatment. The possibility of replacing, by taxis, a uterus recently inverted, was understood, but for cases in which the organ had

been displaced for years, or even for months, no resource existed, except amputation.

It is certainly one of the many triumphs of which the gynæcology of the 19th century can boast, that this accident has been proved to be amenable to conservative measures, and that taxis has been shown to be capable of effecting a cure, and preventing a resort to a mutilating surgical procedure. There can be no doubt that the urgency of the symptoms which attend upon inversion is sometimes so great, that a resort to amputation, after failure by other means, is rendered perfectly legitimate. But, on the other hand, every surgeon must shrink from a procedure which destroys his patient's capacity for the performance of two of her most important physiological functions, and no one can view it in any other light than that of a last resource.

So far as I have been able to ascertain, the first cases of chronic inversion which were successfully reduced by taxis are those mentioned by Colombat,* in the following passage: "Dr. Daillez reports, in his dissertation, that the surgeon Labarre De Benzeville, had effected the reduction as late as the eighth month; and Baudelocque, after eight years. In later times, the first case of success occurred in 1847.† The inversion had lasted more than a year, when M. Valentin, by introducing one hand into the vagina, and making counter-pressure by the other over the abdomen, succeeded in reducing the displaced fundus in ten minutes. In 1852,† Mr. Canney, in the same manner, effected reduction in a case of five months' standing, and in the same year‡ M. Berrier accomplished it in one which had existed for fifteen months. Four years after this, Dr. Tyler Smith, of London, effected reduction in a case of twelve years' standing, by combining taxis with pressure through the vagina by a caoutchouc bag filled with air. More than a week was consumed before his persevering efforts were crowned with success. Cases of cure effected by taxis alone, or combined with pressure by bags of air or water placed in the vagina, were after this rapidly reported from different parts of the world. Most notable among these were the cases of White, of Buffalo, in 1858, of fifteen years' standing, and Noeggerath, of New York, in 1852, of

* Colombat, Amer. Ed., p. 186.
† Quoted from Ranking's Abstract, vol. 7, by G. Hewitt.
‡ Courty, p. 797.

thirteen years' standing. Within the past ten years, cures have multiplied so rapidly as to preclude the mention of individual cases in an essay of the character of this.

The prognosis of chronic inversion is at all times grave. Repeated and prolonged hæmorrhages prostrate the patient, and expose her to all the risks of the worst forms of uterine polypi. But not only is she exposed to dangers inherent to the displacement from which she suffers; those attendant upon an erroneous diagnosis are very great. To one alive to the possibility of confounding this condition with fibrous polypus, the methods of differentiation are numerous and reliable; but to the rapid and careless diagnostician, who does not allow that possibility to enter his mind, and consequently does not carefully weigh the evidences in favor of and against it, there is a great likelihood of error. The following table, presenting at a glance the chief points by which differentiation may be established, will serve to illustrate the first part of this statement, while a reference to statistics which will follow it will corroborate the second:

If it be a polypus,	*If it be inversion,*
The probe will pass by its side into the uterus.	The probe and finger will be arrested at the neck.
Conjoined manipulation will reveal the uterine body.	Conjoined manipulation will reveal a ring where the body should be.
Rectal touch will reveal the uterus.	Rectal touch will not discover the uterus.
Recto-vesical exploration will reveal the uterus.	Recto-vesical exploration will not discover the uterus.
The pedicle will usually be small.	The pedicle will be large.

These signs will attend only complete inversion Where the inversion of the body is only partial, much greater difficulty will be found in differentiation. The following are the most reliable means at command:

If it be a polypus,	*If it be inversion,*
The probe will show increase in dimensions of uterine cavity.	The probe will show decrease in dimensions of uterine cavity.
Conjoined manipulation will reveal body of uterus of normal shape.	Conjoined manipulation will reveal small abdominal ring.
Rectal touch will show uterus to be smooth.	Rectal touch will show abdominal ring.
It will have come on gradually.	It will have occurred suddenly.
It will have no reference to parturition.	It will usually have followed parturition.

One who is aware of the great frequency with which amputation of the inverted uterus has been practiced

under the impression that a fibrous polypus was being removed, cannot but wonder that errors of diagnosis have so often occurred when so many methods of differentiation were at command. The explanation is that to which I have referred, namely, that the possibility of error was not entertained. Out of fifty-eight cases of inversion of which a report is given hereafter, and in which amputation was practiced, seven were mistaken for polypi.

Even where a correct diagnosis has been made, still another danger menaces the patient—that of rupture of the vagina in efforts made at reduction of the inverted organ. A small hand, a cautious, unexcitable mind, and constant vigilance during all efforts by taxis, must be combined with thorough knowledge of the subject, to avoid this imminent danger. Even with this combination it is a matter of surprise to me, from my experience with these cases, that the accident has not occurred much oftener, and I confess that I should prefer to trust a patient in whom I felt great interest to the operation of abdominal section, as described in case fourth, than to that of prolonged taxis at the hands of a rough, unintelligent and inexperienced practitioner. To one thinking upon this subject for the first time, this position will appear exaggerated and indefensible; but I assume it after mature reflection.

In the treatment of inversion, three methods have heretofore been adopted.

1st. The organ has been left in malposition; hæmorrhage being controlled by hæmostatic means.

2. The displaced organ has been amputated.

3. The inversion has been reduced by taxis, by elastic vaginal pressure, or by a combination of the two.

The consideration of the first of these does not come within the scope of this essay. That of the second and third will occupy us immediately.

Amputation of the uterus has been effeted by the knife, the ligature, the écraseur, by the knife or ècrāseur preceded by the use of the ligature, or by the galvano-caustic. Amputation, however practiced, not only destroys the woman's capacity for child-bearing, and impairs that for menstruation; it likewise exposes her life to danger from hæmorrhage, from septicæmia, from peritonitis, and from amputation of a loop of intestine contained in the inverted uterus. Dr. Charles West gives us the following table of the results of the operation practiced by the various procedures which I have enumerated:

	Cases.	Recov'd.	Died.	Operat'n abandon'd.
Uterus remov'd by ligature	45	33	10	2
" " by knife or écraseur	5	3	2	
" " " " preceded by ligature	9	6	3	
	59	42	15	

By this statement it will be seen that about one-quarter of all operated upon died; and let it not be forgotten that this quarter died, not in being cured, not in an effort, even, at attaining perfect health, but in an attempt at purchasing immunity from a series of dangerous and annoying symptoms at the price of that organ, of which Hippocrates says, "propter uterum est mulier."

In The American Journal of Obstetrics, etc., for August, 1868, appears a *résumé* upon the subject translated from Beitraege zur Geburtskundeund Gynækologie.

"*Record of Removal of the Inverted Uterus by ligation, Excision, and by Both Combined.*

I.—REMOVAL BY LIGATION.

a. Cases terminating snccessfully.

I.—1767. Faivre, Journ. de Mèd., 1767, Août-Labrevoit, l. c., page 49. Patient nineteen years old, irreplaceable inversion after birth; threatening gangrene. Separation of uterus on twenty-seventh day.

II.—1824. Rheineck, Siebold's Journ. Bd. 5, dag. 628. Inversion of one month's standing. The ligated tumor soon (?) separated.

III.—1818. Newnham (an essay of inversio uteri. London, 1818). Inversion caused by a neoplasma (polypus or fungus hæmatodes). Uterus separated on seventh day.

IV.—1828. Staub, Schweiz. Zeitschr, fuer Natur u. Heilkunde. Bd. iii. h. 1. Inversion caused by a large polypus. The latter was excised, the uterus ligated.

V.—1835. Bouchet of Lyon (Jacquemier, Manuel des Accouch.), tom. ii. p. 580.

VI.—(?). Gooch, ibid. Inversion existing for three years. Ligature cut through on fourteenth day.

VII.—1840. Harrison, London Med. Gaz., 1840, April. Uterus separated on fourteenth day.

VII.—1836. Bloxam, Gaz. Mèd., 1837. Labrevoit, l. c., p. 50. The inverted uterus was supposed to be a polypus. Ligature removed on sixteenth day; every month a bloody discharge.

IX.—1837. Kuttler, Œsterr. Jahrb. Bd. xi, s. 3. Inversion after eleventh pregnancy; the ligated uterus separated after three days. Patient is reported to have menstruated again.

X.—1838. J. Williams, Lancet et. Gaz. Med., 1839. Ligature.

XI.—1843. Esselmann, Tenness. Soc. West. Journ. of Med. and Surg., 1843. Aug. Breslau l. c. Inversion of twelve ycars' standing, believed to be a polypus. Ligated uterus came off on eigtheenth day.

XII.—1846. Greyson, London Med. Gaz., 1846. Feb. 20, p. 342. Inversion after a difficult birth; ligated uterus came off on nintb day.

XIII.—1852. Betschler, Beitr. zur Gynæk. Bd. i. gag. ii. Inveraion existing for one year. Ligature cut through on fourteenth day.

XIV.—1855. Oldham, Guy's Hosp. Rep. Ser. iii. 1. Inversion after difficult laber. Ligature came off on twenty-second day.

XV.—1861. Courty, Labrevoit, l. c., p. 51. The ligated uterus came off on thirtieth day.

XVI.—1863. Dale, Gaz. Méd., 1863. Inversion with cancer. Ligature. Cancer recurred after two months; death.

b. Cases terminating fatally.

XVII.—1784. Lammonier, Rec. per. de la Soc. de Med. de Paris, 1798. T. iv. Labrevoit, l. c., p. 55. Inversion caused by a polypus. Repeated ligations. Death after one month.

XVIII.—1816. M. A. Petetin Lyon, Journ. Gen. de Med. T. i. iv. Pag. 128. Labrevoit, l. c., p. 52. Inversion, existing since three months, considered a polypus. Ligation. Death on fifth day.

XIX.—1824. Quoted by Boyer in his Traité de Mal Chir. Inversion mistaken for a polypus. Ligature cut through on twenty-sixth day. Death ensued on thirty-eighth day, from septicæmia.

XX.—1830. Symonds, London Med. Gaz. 1830. Nov. Incomplete inversion, believed to be a polypus. Tumor came off on fifteenth day; death on twenty-third day.

XXI.—1855. Deroubaix, Gaz. Mêd. de Paris. 1853. 27 Août. Inversion of eight months. Ligature broke on twelfth day. Death on twenty-third day, with diphtheritic symptoms.

XXII.—1855. Coats, Assoc. Med. Jour. July, 1855.

Inversion existing for half a year. Death on sixteenth day after application of ligature.

XXIII.—1860. Betschler, Beiträge zur Gynækologie. Bd. i. pag. 7. Inversion caused by a fibroid tumor. The ligature came off on twentieth day; death on twenty-fourth day.

2—REMOVAL BY EXCISION.

a. Cases terminating successfully.

XXIV.—1839. Luytgareus, Ann. de la Soc. de Mèd. de Gaud. 1839. Inversion caused by a large, broadly attached polypus. Cutting of the pedicle, ligation of the arteries. Healed in ten days; menstruation afterwards.

XXV.—1844. Michalowsky, Journal de la Mèd. de Montpellier, May, 1845. Inversion existing since thirteen months. Tumor cut off with scissors. Recovery in fourteen days.

b. Cases terminating unsuccessfully.

XXVI.—1678. Arnoult de la Motte, Tr. d'accoucher, p, 806. Death after a few days.

XXVII.—1788. Deleirye, Labrevoit, l. c., p. 52. Death on third day.

XXVIII.—1858. Aran, Lect. Cliniq. sur les Mal. de l'Uterus. Removal of inverted uterus with écraseur. Death in fifty-nine hours.

XXIX.—1859. McClintock, Tr. Prat. de Mal. des Femmes. Paris, 1855. Puerperal inversion of one year's standing. Removal with the ècraseur; death after fifty-nine hours.

XXX.—1864. Wilson, Edinburgh Journal. Labrevoit, l. c., p. 53. Inversion caused by a polypus; removed with the écraseur.

XXXI.—1861. Veit, Winkel's Path. and Therap. des Wochenb., p. 99. Inversion after birth, existing after birth seven months. Removed with the écraseur.

3. REMOVAL BY LIGATION AND EXCISION.

a.—Cases terminating successfully.

XXXII.—16—. Vicuseium, Tract. de liquorib. Labrevoit, l. c., p. 49. Ligation, followed by removal with the knife. Patient lived for fifteen days.

XXXIII.—1787. Desault and Bodelogue, Rec. per de la Sociét. Mèd. de Paris. 1791. Inversion caused by a polypus; double ligation, afterwards removed below by the knife.

XXXIV.—1802. Alex. Hunter, Hufeland's Journ., 1802, Maerz. Ligation, and after six hours, excision.

XXXV.—1804. Chevalier, Merrimann, die Regelwidrige Geburt. Deutsch von Kilian, p. 309. Ligation; after twenty days, amputation. Patient lived for several days.

XXXVI.—1806. Clarke, Edinb. Med. and Surg. Jour. 1806, t. ii. Inversion caused by and believed to be a polypus. Ligation and amputation.

XXXVII.—1811. Baxter, Annal. de Littèr. Mèd. Etrang. Gaud, 1811, Juillet. Inversion of five weeks. Ligation, followed by amputation. Menstruation returned twice.

XXXVIII.—1818. Windsor, Med. Chir. Transact., 1819. Puerperal inversion existing since a year and a half. Double ligation. Amputation after twelve days. Stump healed in two and a half months.

XXXIX.—1820. Roettger, Walther u. Graefe Journ., Bd. xxiii, p. 203. Inversion, after repeated removals of polypi, believed to be another polypus, by a barber, who intended removing it by pieces. Fundus cut off. Roettger placed a ligature around it to stop the hæmorrhage, and cut the tumor away below. Ligature came away after three weeks. Menstruation is said to have appeared again.

XL.—1821. Weber, Siebold's Jour., bd. v. s. 2. Inversion caused by a polypus. Ligation, followed by amputation.

XLI.—1831. Laserre, Froriep's Notiz., 1836, Jan., p. 116. Puerperal inversion of one and a half year's standing. Ligation; after eight days, amputation. Recovery after four weeks.

XLII.—1835. Cook, Lancet, 1846, Jan. 16. Puerperal inversion; ligation followed in 3 weeks by amputation.

XLIII.—1836. W. Mooz, Lancet, 1836, vol. ii. Puerperal inversion; ligature; amputation after three weeks.

XLIV.—1840. Portal, Filiatre Sebezio, 1841. Feb. Gaz. Méd., 1841, No. 16. Inversion of four years' standing; ligation; amputation after a few days. Recovery in twenty-nine days.

XLV.—1842. Betschler, Beitr. zur Gynækologie, bd. i. p. 2. Inversion caused by a broad fibroid tumor, attached to the fundus. Ligation, followed after fifteen days by removal with the knife.

XLVI.—1842. Juergeues, M. Horten, Dissert. de Uteri Invers., Dorpat, 1853. Inversion caused by a polypus; ligation with silver wire; excision on fourteenth day.

XLVII.—1843. Crosse, Archiv. Gen. de Med., 1848. Février. Puerperal inversion since one month; ligature; amputation after five days; recovery after four weeks.

XLVIII.—1848. Johnson, ibidem. Puerperal inversion of five years' standing. Ligation, followed after twenty-eight days by amputation. Patient recovered after six weeks.

XLIX.—1848. Hublier, Bull. de l'Acad. de Méd., 1848, No. 41. Puerperal inversion existing for two months.

L.—1849. Higgins, Monthly Journal, 1855, No. 134. Puerperal inversion of twenty years. Ligation; excision with a bistoury; quick and complete recovery.

LI.—1854. Gredding, Gaz. des Hôpitaux, 1855, No. 134. Inversion caused by a broad fibroid tumor; ligation, followed immediately by amputation; three sutures inserted.

LII.—1859. McClintock, Dublin Journal, xxvii., Feb., 1859, p. 137. Puerperal inversion. Ligature remained for forty-eight hours. Removal by the écraseur in the groove formed by ligation.

LIII.—1863. Sheppard, Med. Times, 1863. Ligation and excision.

b. Cases terminating unsuccessfully.

LIV.—1803. Watkinson, Jour. der Ausland. Med. Lit., 1803, Jan., p. 84. Ligation, followed by immediate excision. Ligature slid off the stump; fatal hæmorrhage.

LV.—1836. Meerholdt, Dissertatio de Uteri Inversione, Dorpta, 1836. Puerperal of one year's standing. Ligation; amputation; soon signs of internal hemorrhage with consecutive peritonitis, terminating fatally on nineteenth day.

LVI.—1840. Velpeau, Gaz. des Hôp., 1840, Mai, No. 36. Incomplete puerperal inversion; ligation, followed by excision. Death after seventy-two hours.

LVII.—1850. Reported by Engel in Zeitchr. des Deutsch. Chirurg. Vereins, bd. iv. pag. 43. Patient suffered from polypus for three years, which was ligated.

LVIII.—1867. Scanzoni. Inversion caused by an intraparietal fibroid tumor; ligation with Maisonneuve's constrictor, followed immediately by excision with the bistoury. Death ensued on seventh day."

From this exhaustive *rèsumè*, embodying fifty-eight cases of amputation, it will be seen that eighteen terminated fatally; nearly one-third of the entire number submitted to operation.

Taxis has been practiced for the reduction of the inverted uterus, certainly since the beginning of this century and perhaps before that time, in two entirely distinct methods. First, the manipulations of the operator are directed to the constricting cervix, in order to overcome resistance there, ond to return first the parts which last escaped. Second, this manipulations are directed to the body, in order to return first the parts which escaped first. The first of these methods is thus described by Capuron:* "If the orifice be not sufficiently dilated to allow the inverted portion to return easily, it is a better plan to take the tumor in the palm of the hand, with the fingers distributed around its pedicle, and to reduce first the portion which was inverted last, as if we were dealing with a hernia." "We encounter at this point," says Aron,† "two opinions which have arisen in relation to the reduction of the uterus inverted during labor: one party desiring to return first the parts which escaped last, subjecting the uterus to a general compression, so as to soften it to a certain extent and force it to pass the orifice little by little, commencing with the least voluminous parts. . . . . Arrived at the tumor, if the operator wishes to employ the first method, he kneads it so as to soften it, and cause it to pass more easily through the constricted orifice in which he engages his fingers." Becquerel* describes it thus: "It is advisable, as far as practicable, to return first the parts which last escaped; for in this way we dilate in advance the muscular fibres which oppose reduction. P. Dubois Danyau) . . . . M. Velpeau considers this the best method."

The second method of taxis consists, not in manipulating the "constricted orifice in which he engages his fingers," so as to "dilate in advance the muscular fibres which oppose reduction," as Aron and Becquerel express it; but in dimpling or indenting the fundus itself, so as to make of the indented or invaginated portion a species of wedge, which is forced into the cervical constriction. In recent cases of inversion occurring, as the vast majority of these cases do, after labor, 350 out of 400 reported by Crosse having done so, the centre of the fundus may be indented and carried up through the cervical canal; and even in chronic cases such an invagination is much more practicable than one would theoretically suppose. As a gen-

*Mal des Femmes, 2d Ed. p. 510. †Mal de l'utêrus, p. 901.

eral rule, however, my impression is that the manipulations practiced on the fundus act, not in this way, but in overcoming cervical resistance, and thus accomplishing in a more indirect and imperfect way what the French method, styled the method of Viardel by Becquerel, does by engagement of the fingers within, and direct expansion of, the cervical constriction.

Dr. Emil Noeggerath, of this city, has offered a modification of the second plan, which I have resorted to with success on two occasion which will be hereafter reported, and which I regard as one of the most valuable suggestions which has been made of late years with reference to the subject. His method consists in compressing the uterine body, opposite to each horn, so as to indent one of these, and thus offer to the cervical canal a wedge, which passes up and if followed rapidly by the other horn and the whole body.

My experience in the reduction of three of my cases has been this: the first result of manipulation has been to overcome the resistance of the cervix, so that the whole of this part turned over and enfolded the body, further progress being stopped by resistance at the os internum; then one horn has gradually become indented, and thus the second part of the procees of replacement has been effected.

As the first two of the cases which I here report were seen in consultation with gentlemen who have published them,* I do not feel at liberty to do otherwise than to employ their published records verbatim. After having done so, I shall merely add a few remarks suggested by my personal experience in connection with them.

"CASE 1.—*Reduction of an Inverted Uterus by a New Method. By* THOS. ADDIS EMMET, M.D., *Surgeon in charge of the New York State Woman's Hospital.*

The following case was presented at a meeting of the New York Obstetrical Society, November 21, 1865, and published in the Americal Journal of the Med. Sciences, Philadelphia, for January, 1866. It has, however, been, to a great extent, re-written, as well as the subsequent case, and additional material added.

"Mrs. Q., æt 24, came under my charge October 8th and presented the following history: She had menstru-

*These cases are introduced by permission of the authors.
*Mal de l'utérus, tome 2, p. 314.

ated for the first time at eleven years of age, with no return for a year, but after this period she became regular and continued in perfect health. She was married at 22 years of age; soon afterwards became pregnant and went to full term. Labor commenced between the hours of nine and ten P. M., March 11, 1865. She was attended by a homœopathic practioner, who was called in attendance at once and remained all night. The progress of the labor, it seems, was perfectly natural. About eleven A. M., the attendant ruptured the membranes, and delivery took place of a large male, an hour afterwards, labor having continued nearly thirteen hours. As the head passed the vulva it was discovered that the umbilical cord had made several turns around the child's neck; the cord, as stated, was slipped over the head without traction, the body followed immediately, and soon afterwards the placenta. Within an hour after delivery, the patient suddenly became faint, with violent after-pains coming on. This condition continued for some forty-eight hours, with a bloody discharge, which, at the time of a pain, was expelled from the vagina with considerable force. After the pains had ceased, the flow ecntinued more than natural, and at times was almost pure blood. About a week after the delivery, the nurse discovered a mass presenting just within the vagina. An examination was made by the attendant, a consultation called, and the case pronounced (as the patient states) one of cauliflower-growth. She returned home to her friends in Utica at the end of the month, still suffering from a constant sanguineous discharge. Her general health at length became so much impaired that Dr. McCall, of Utica, was consulted, and he recommended her to my care.

"She presented every indication of suffering from extreme anæmia, with a pulse at 140, and a loud cardiac murmur following any exertion. On making a vaginal examination, a soft mass, somewhat larger than an egg, was felt lying in the axis of the vagina, and, being pedunculated, might well have been mistaken for a polypus. I passed two fingers of the left hand well up into the cul-de-sac behind the mass, so as to lift the uterus above the pubes, and, with the other hand over the abdomen, I was able to approximate the two sufficiently to satisfy myself that the case was one of inversion of the uterus.

"Oct. 9th.—Dr. Thomas saw the case in consultation, and verified my diagnosis. It was then decided that nothing could be gained by further delay.

"10th.—With a pulse of 160 per minute, at 12.30 P. M. she was placed under the influence of ether by my assistant, Dr. Perry. As it was a serious question if, in her reduced condition, the anæsthetic could be continued long enough to effect the reduction, I requested Drs. Thomas, Sabine, and Geo. T. Elliot, Jr., to aid me with their counsel. After a few moments she was fully under the influence of the anæsthetic; the pulse became fuller and reduced in frequency. The patient, lying on a table, of a convenient height for me to operate while seated, was placed on the back, with her knees drawn up. The left hand was passed entirely within the vagina, and by pressure of the fingers the fundus was dimpled, while the organ was steadied by the right hand over the abdomen. At the end of an hour I found that but little progress had been made beyond the fact that the fundus was somewhat smaller, in consequence of the impaired circulation from pressure. As there was full time for reflection, it became evident to me that the mode of reduction recommended by pressure made at the fundus was not applicable when the uterus had already contracted to nearly its natural size. As the fundus was indented by pressure, the body spread laterally beyond the cervix, and, although it materially dilated the neck by flattening it, the power was lost, without influencing to any extent the point of constriction. In fact, it seemed to increase the difficulty with a continued force in the upward direction, by rolling in the parts at the point of inversion. With this view, I allowed the fundus to drop into the palm of my hand, and passing the thumb and fingers around the mass, as high up as possible within the cervix, I continued to enlarge the space beween the neck and inverted body, by rapidly expanding the fingers as much as possible. At the same time I made steady upward pressure, with a view of returning first the portion last involved. The manœuvre was aided by lifting the organ above the pubes, and endeavoring with the other hand to roll out the inverted portion by sliding the abdominal wall over the point with some pressure. In the course of half an hour the progress of the reduction was marked. The globular mass, which was felt through the abdominal parietes

in the beginning, now gradually became oval laterally, with a marked depression in the centre. By this time my hand had become almost powerless, and I was obliged to call on Dr. Elliot to relieve me for a few moments. I then continued the manipulation for some three-quarters of an hour longer, when Dr. Thomas, who had been absent during the past hour, returned. From his appreciation of the progress made, the only fear I entertained of final success was in the patient's power of endurance. Gradually the fundus passed entirely within the cervix, but beyond this point, for an hour longer, but little advance was made in the reduction. The depression, however, felt through the abdominal walls, above the seat of inversion, had become large enough apparently to admit the extremities of three fingers, with a proportionate increase in the size of the mass. During the whole time the patient had been kept profoundly etherized by Dr. Perry. This was found necessary from the fact that in the beginning, when its influence was lessened to any degree, vomiting came on immediately, and with any movement of the patient, it was impossible to steady the uterus or maintain the necessary amount of pressure. Her pulse had continued good throughout, and her general appearance was satisfactory. Shortly before four o'clock she began to fail; at about ten minutes after that hour her condition had become critical, and I was obliged to abandon my efforts for the time being, in consequence of the powerless condition of my hands. In consultation, the opinion was unanimous, that it would jeopardize the life of the patient to continue the etherization longer. In this opinion Dr. Echeverria, who was present, concurred. At my request a last effort was made, for I was satisfied that I could not be deceived in the fact that the depression, felt through the abdomen, was slowly becoming larger. Drs. Sabine and Elliot, after a few moments, desisted from their efforts, as the latter gentleman had advised a frequent change, so that the hand of each operator having rested, the power exerted would be maintained in a more uniform manner. Dr. Thomas, in turn, also passed his hand into the vagina, and, as he describes it, drew down the mass so as to reproduce the inversion, and on immediately returning it, found that it did so beyond its previous position; he repeated this manœuvre, and on returning it again, on the point of his finger (without force

on his part, as he stated), the fundus passed on and the reduction was completed, after an effort of three hours and fifty-five minutes.

"This point is one of great clinical interest, and worthy of discussion by the Society, as to the bearing of this manœuvre on the result, as well as the exact point at which it should be resorted to. My own impression is, that Dr. Thomas is mistaken as to the extent of reduction made by him. The portion below the constriction was flaccid and could be readily drawn down, but above the engaging point, where the surfaces were forced into such close proximity, it is a question whether more force would not have been required to reproduce the condition existing at the beginning, than it was possible to have exerted. The final effort, doubtless, hastened the issue, yet as the widest portion of the uterus was already so far advanced within the canal, it is possible that the muscular action of the organ itself might at this stage have soon completed the reduction, as, from the result, the canal was evidently already dilated sufficiently for the purpose. We see the principle demonstrated in an india-rubber ball which has been indented; as soon as the action of recovery has once commenced the progress of restitution rapidly increases to the consummation.

"She speedily recovered her consciousness after the ether, and during the vomiting following, as a precaution, I passed the index finger directly into the relaxed canal of the uterus, which was presenting immediately within the labia. It was fortunate that I did so, for on the instant I felt a portion of the posterior wall near the fundus indented. With the other hand on the abdomen, I seized the organ and restored the portion on the point of my finger, and retained it in the canal until the paroxysm had passed. It was the only effort at vomiting, and there was no return.

"At 5 P. M., with a pulse of 130, twenty-five drops of Magendie's solution of morphia was administered with beef-tea by the mouth. At 9 P. M., pulse 128, as she was suffering from pain generally over the abdomen, thirty drops of Magendie's solution was repeated. She was sleeping quietly at 10.30 P. M., pulse 112 per minute. At midnight the pulse was 108, and she had been sleeping since the last visit.

"11th.—At 9 A. M. the pulse was 110; she was free

from pain, and had passed a quiet night. As there was some terderness on pressure over the abdomen, a large poultice was ordered. At noon her condition was comfortable; pulse 120, with some increase of tenderness over the abdomen; ordered the morphia to be repeated. Half-past two P. M. was free from pain, and sleeping quietly; pulse 105. At 7 o'clock P. M. pulse the same; repeated the morphia.

"12th.—Nine A. M., pulse 100; she was entirely free from pain, and had passed a very comfortable night. From this time she was kept quiet in bed for twelve days without any further treatment being necessary.

"16th.—I made a digital examination and found the os patulous, but the uterine canal contracted above the vaginal junction so as to admit the point of the index finger only for a short distance. The sound passed a little over three inches readily to the fundus, with the organ somewhat anteverted.

"Nov. 28th.—She visited me after taking a long drive. I found that the uterus had returned nearly to its normal size. She had menstrated naturally a few days before, and was rapidly regaining her health and flesh.*

"On presenting the case to the Obstetrical Society, it was the opinion of several members that the condition of the patient at the poiut in question favored a rapid reduction in the last stage, and as the dilatation was complete, the innate force of the organ itself might have soon completed the reduction. Dr. Budd remarked that Dr. Noeggerath had some years ago succeeded in reducing an inverted uterus by a similar process, and that the case was published in the "Transactions of the Academy of Medicine." Dr. Noeggerath, being called on, related the case in full, and remarked that in recent cases, and where the fundus had not yet escaped from the cervix, the dimpling process recommended would sometimes succeed, but not always where the inversion was complete. He also gave the particulars of a subsequent case, where he succeeded only by confining his manipulations entirely to the return of one side alone, until the reduction was complete."

I have no disposition to dispute the conclusion, so clearly set forth in this narrative, that my manipulations were of little avail in accomplishing the success which

*Nov. 2d, 1866.—Her husband called on me to state that she was in excellent health, and now five months advanced in pregnancy.

was finally obtained; and while dissenting from the deduction, that "the innate force of the organ itself might have soon completed the reduction," willingly agree, that any other hand which might have been at that moment in the vagina would have done what accident allotted to mine. Nevertheless it may interest the reader for me to state precisely the process by which reduction occurred, in so far as I am able to trust to my remembrance of the occasion. The hand of the operator had been repeatedly changed during the time allotted to the effort at reduction, and each had taken his turn without success. The case appeared so hopelessly rebellious that a last trial was being made by each in turn, preparatory to the abandonment of the process at that sitting, and I was the last to make the attempt. Taking the fundus in my fingers, I drew it down outside of the vulva, and rapidly pushed it up to the highest point possible in the pelvis. This reinversion of the partially replaced uterus is always very easy, for the reason that there is, unfortunately, no influence at work to prevent it. I have done it in three other cases, have known it done by others, and regard it as a method always to be essayed.

In the fourth case recorded in this essay, I succeeded by it in returning one horn of the uterus to its position.

As I rapidly pushed the uterus up, in Dr. Emmet's case, to the highest point in the pelvis which was attainable, I thought that it was just about to go into position, but was disappointed. Drawing it down again, I then repeated the manœuvre, when it instantly erected itself.

"CASE II.—*A case of reduction of a completely inverted uterus of four years' standing, by means of pressure and a peculiar mode of manipulation.* By JOSEPH WORSTER, M.D., of New York city.—Extracted from the *American Jour. of the Med. Sciences, for October*, 1867.

"Inversion of the uterus is happily of such rare occurrence that many accoucheurs, long in extensive practice, have never met with a single case. It is always an alarming event at the moment, and often speedily fatal. If the first danger be escaped, and the uterus be not speedily returned, this becomes exceedingly difficult, and the inversion is very often a source of distress which embitters or shortens life.

"This displacement has been mistaken for a polypus; or, when due examination has not been made, has remained

undiscovered even until after death. In some cases the uterus has spontaneously returned, after the lapse of a considerable time, to its natual condition, and women have afterwards conceived and borne children. (Meigs' *Colombat*). But such a result is not to be calculated on.

"A few cases are on record, in which the inverted uterus has been returned after a period of twelve weeks, but then with exceeding difficulty. Drs. Emmet and Thomas, in this city, succeeded in returning one after a lapse of seven months, by a peculiar kind of manipulation. (See number of this journal for January, 1866, p. 149, and April, 1866, p. 403).

"In the case which I am about to relate, this manipulation was also successfully adopted; which, as a new and important means of success, when practiced with patience, perseverance and endurance, both on the part of the physician and patient, and after an unusual period of duration of the inversion, merits to be put upon record, and encourages to future effort in cases hitherto deemed nearly or quite hopeless.

"Mrs. S. J. S., daughter of a physician, consulted me in reference to an inverted uterus; doubtful whether it could be returned or required to be amputated. She was of nervous temperament, well developed, twenty-seven years of age; had been married at the age of twenty-one, and became pregnant thirty days afterwards, and had resided in Wayne Co., N. Y.

"In due time, after a labor of nine hours' duration, she was naturally delivered, but was speedily attacked with a profuse hæmorrhage which induced syncope, depending, no doubt, upon a partial inversion of the womb. After an interval of constipation of nine days, an evacuation of the bowels rendered the inversion complete.

"The inversion was not discovered for a week, and was then mistaken for a polypus. Hæmorrhage more or less had occurred during the period, *nearly four years*, which had elapsed previous to her coming under my care. Believing the return of the organ to its natural position to be impossible, and worn out by the suffering and hopelessness of her condition, she had resolved upon submitting to the amputation of the inverted uterus, and had repaired to this city for the purpose of having that operation performed. But, reflecting on the success of a previous case of chronic inversion treated by manipulation, on the danger of amputaion, and influenced by

the consideration that her naturally fine voice (she was an eminent vocalist) would suffer from the loss of her ovaries, even if the amputation succeeded, I decided to attempt its reduction by means of the hand, aided by the relaxing anæsthetic influence of chloroform.

"Before, however, resorting to this method, I determined to remove all additional sources of pain and irritation which might impede success, and proceeded to heal several superficial ragged ulcerations and abrasions which were patent upon the everted interior surface of the uterus, which organ was much enlarged, and protruding between the labia.

"Nov. 3, 1866, 11 A.M.—Assisted by my son, Dr. W. P. Worster, who administered the chloroform, I attempted the reduction manually. I introduced my well-greased left hand into the vagina and grasped the fundus uteri with the fingers, endeavoring, as much as possible, to lessen its lateral diameter. Thus grasping it between the thumb and fingers, I made strong pressure upwards in the proper axis, wedging it between the sides of the os and neck, which soon began to descend and surround the inverted fundus. At the same time I made, from above and behind the pubis, strong counter-pressure with the thumb and fingers of the right hand through the parietes of the abdomen, downwards into the centre of the depressed fundus and cervix uteri, which soon began to yield. The second finger of the right hand, most successfully operating as a wedge, dilated the cervix until the finger in the centre of its circular ring met the thumb of the lett hand within the vagina; using the thumb, at times, to reinvert the cornu, after the manner of Noeggerath, and resorting occasionally to the method with which Dr. Sims, in a more recent case, had been successful in a few minutes.

"This manipulation we continued for thirty minutes, when it was desisted from. The patient had lost much blood, and was much exhausted by the long continuance ot an amount of pressure, which only those who have had a similar experience would suppose the uterus capable of enduring. The tenderness of the uterus and abdomen subsided in a few days, but not for some days longer was the manipulation repeated, in order again to effect the cicatrization of the renewed ulcerations, which again kindly healed under the nitrate of silver and a dressing of cotton saturated with glycerine.

"8th, 11 A.M.—I resumed the operation with increased confidence in the certainty and ease with which the damages inflicted would be repaired; the everted inner surface of the uterine cavity being smooth and healthy.

"The patient lying upon her back, the limbs drawn up, and under the full influence of chloroform, I again seized the protruded fundus with the two fingers of the left hand, and thumb thrust into the right cornu, and by long and strong compression so diminished its size that I could carry it up much further than before, and found that little had been lost by the delay. The bulk of the uterus witin the embrace of the fingers had retained its position, and was much diminished, and could be now easily pushed beyond the grasp of the surrounding cervical ring. I also succeeded in more depressing the cervix, through the abdominal walls, and effecting wider divergence ot the encircling cervical border on all sides; a space about two inches in diameter.

"The pressure was continued in both directions this time for one hour and five minutes, when physical exhaustion, both on my part and that of the patient, warned me to desist. The parts were secured against further protrusion by Barnes' dilator in the vagina, and a respite of a few hours given to repair damages.

"At 10 P.M. the operation was resumed. The tampon had affored an excellent support to the protruding fundus. From time to time I adopted a suggestion of Prof. Thomas', which, in Dr. Emmet's case, had seemed advantageous, of drawing down the uterus as far as possible, and then carrying it suddenly upwards to pass it through the os and cervix, but unsuccessfully. In adopting again, further, the suggestion of Dr. Noeggerath, to crowd the thumb into one cornu, it passed through into the fallopian tube, a circumstance which occasioned me no little alarm as to future consequences; considerable hæmorrhage followed, and I desisted for the present. At this time the os was so far dilated that I could pass two fingers of the right hand downwards from behind the pubis, and through it, until they met the thumb of the left hand carrying up the cornu from below.

"9th.—No serious censequences have followed the violent pressere of the preceding night. Pulse quiet, and patient comparatively comfortable; hop poultices to abdomen, and cold water injections. Subsequent applications of the sol. nit. argenti again kindly healed the

breaches made, and after a few days she returned home to await the passing over of her menstrual period, and the recruiting of her energies for a further struggle. In order to avoid prolixity, I shall pass over the details of the repetition of the several manipulations for a reduction upon her return, made upon the 28th and 29th of November, and the 8th and 9th of January, 1867.

"Jan. 11, 1867.—Patient was placed in the usual position, and, under full anæsthetic influence, the usual manipulations were again resorted to. With the assistance of Prof. Thomas and Dr. James L. Little, who, on this occasion administered the chloroform, a pressure from below upwards of about twenty pounds was maintained per vaginam, and a corresponding counter-pressure from above downwards through the abdominal cavity upon the encircling edges of the cervix. The handle of an egg-beater was also resorted to occasionally to relieve the weary and aching forefinger. We took alternate periods of making the pressure, relieving each other at intervals of forty-five minutes; and thus we combined and continued our efforts for *three hours*, until the resistance of both cervix and uterus was overcome, and our fatigue and anxiety were abundantly rewarded with a triumphant success. This fell to the lot of my friend, Prof. Thomas, who, just as the period of his forty-five minutes had about expired—being the end of the fourth alternation—was fortunate enough to complete or effect the reduction with the points of the fingers, to the great satisfaction of all parties concerned.

"The case, for the length of duration and obstinacy of the inversion, and the severity of the effort needed for its reduction, is, perhaps, without a parallel in obstetrical history.

"Its sequel is briefly told. The operation had lasted within a few minutes of three hours, and naturally had much exhausted the patient. Cotton saturated with glycerine was introduced into the vagina, and muriate of morphia, gr. ss, given.

"Jan. 12.—In good condition; pulse quiet; a little inclined to nausea; abdominal walls and uterus tender; hop poultices to abdomen.

"14th.— Tenderness much diminished.

"15th.—Applied solid nitrate of silver with Lallemand's porte-caustique; also at other times solution of nitrate of silver within the cervical canal.

"16th.—Tenderness nearly gone. Retroversion, which had existed for a few days past, is removed, and position of the uterus now normal. The patient, desirous of returning home, left on the 20th (tenth day after the operation) for Newburgh, travelling without inconvenience in the horizontal posture, and well satisfied with the result of her visit to New York.

"The point in connection with this interesting case upon which I desire to dwell most strongly are: 1st, the necessity of long, steady and continued perseverance upon the part of the operator, *to fatigue the encircling cervix*, and cause its relaxation from around the protruding uterus, which is similary affected and very much aided by, 2d, the counter-pressure from above downwards through the abdominal walls, with the points of the fingers of the right hand kneading and compressing it, and, perhaps, dilating it mechanically.

"Except by this combination of forces, carried to the uttermost extent of fatigue on the part of the operator and patient which nature is capable of enduring, success is not, I think, in cases of long standing, to be attained. But with it much may be expected. It is not original, but it is novel, and merits a faithful trial in all cases.

"I will only further observe, that whereas this young wife came here to submit to a dangerous operation, which, even if successful, would have forever disqualified her for child-bearing, she returned to her home with a perfectly normal condition of her sexual organs, a healthy uterus, and a complete aptitude for conception."

At the moment of reduction in this case, the fibres of the cervix having yielded as far as those of the os internum, which still offered a resisting stricuture, I was pressing the thumb upon one horn and the index finger upon the other, after Noeggerath's method. While doing this, I was conversing with the gentlemen who were with me, when, suddenly, my thumb sunk into an indentation. Supposing this to be due to penetration of the uterine tissue, I was about to withdraw my hand and report the accident to Dr. Worster, when, to my surprise, I found upon upon slight increase of pressure that the indentation increased. I now perceived that the horn had receded, and in a minute or two more the whole uterus rose into its place.

One point upon which Dr. Worster does not, in his essay, lay that stress which I think it deserves, is this: at

the commencement of the attempt I proposed making counter-pressure, not by the fingers, but by a conical plug of boxwood, with a handle a foot long, which I carried for the purpose. This plug was not introduced through the vagina, but was used thus: the hand in the vagina lifted the cervix against the abdominal walls, so that the cervical ring could be felt through them, and the plug was then pressed into the ring by pushing before it the abdominal walls. During Dr. Worster's efforts I held this plug forcibly in the cervical ring, and during my efforts he did the same for me. It may have had no influence in dilating the constricted cervical canal, but it is worthy of attention as a rational attempt to accomplish that result. To my mind, and to that of Dr. Little, it appeared that its effect was evidently good.

CASE III.—On Thursday, 10th of June, 1869, I was requested by Drs. Bishop and Sawyer to see with them Mrs. C., an Irish woman, aged 28 years, and mother of one child, ten months old.

The patient had been in perfectly good health up to her labor, ten months before the time of our visit. This labor was tedious, and was followed by a considerable degree of flooding, which enfeebled her greatly, and prolonged the time of her convalescence. She left her bed at the end of a month, and supposed herself for a time to be well. Very soon, however, bloody, watery and purulent discharges occurred; she suffered greatly from prostration, and had much pelvic pain upon exertion or sudden movement. As she was nursing her child she did not menstruate, and thus escaped much of the sanguineous loss to which most such cases are exposed. On account of the symptoms detailed, she saw her physician several times, but getting no better, sent for Dr. Bishop about one month before I saw her. Dr. Bishop requested Dr. Marvin S. Buttles to see the patient with him, and it is to the latter gentleman that belongs the credit of the diagnosis.

When I saw Mrs. C. she was pale and thin, her pulse over 100 and weak, her appetite poor, and her spirits depressed. Physical exploration revealed the uterus in complete state of inversion, the neck firmly contracted, and the body not remarkably sensitive. Being anxious to try a plan of preparation by which I hoped that relaxation of the cervical stricture might be accomplished by

therapeutic means, I proposed to delay manipulation until Sunday the 13th, at 2 P. M. This was assented to, and I at once put the patient upon the free use of belladonna, and directed that a stream of water should be thrown, as warm as she could bear it, against and over the inverted uterus, three times a day, for half an hour. Suppositories of one grain of the extract of belladonna were placed in the rectum thrice daily, which daily produced the poisonous effect of the drug, as evidenced by constriction and dryness of the fauces, and dimness of vision.

On Sunday, 13th of June, at 2 P. M., this preparatory course having been followed for three days, I met the following gentlemen at the house of the patient: Drs. Bishop, Sawyer, Buttles, Randall and Walker. Dr. Walker having anæsthetized her with ether, she was placed upon her back on a table, and the knees were flexed and held by two physicians, seated one on each side of her. Oiling my right hand, I then passed it into the vagina, and grasping the tumor so that the fingers surrounded the pedicle, I pushed it steadily upwards against the abdominal wall, where it met the counter-pressure of my left hand. In exactly ten minutes the entire cervix yielded and the body went up, so that its lower margin was on a level with the lips of the os externum. Then seizing the body with my thumb on one horn and my index-finger pressing the other, I tried Noeggerath's method. In seven minutes one horn, that pressed by the thumb, became indented, in eight minutes the other followed it, and in just twenty five-minutes the whole operation was completed.

I feel very sure that the entire reduction could have been effected, in this case, in fifteen minutes; but the rapid yielding of the cervix giving to my hand a band which was really the os externum, I became very doubtful as to whether I had not ruptured the whole vaginal attachment. This doubt delayed me longer than one not familiar with the peculiarly paralyzing effect of the compressing power of the vagina would suppose. My fears were fortunately unfounded, no portion of the vagina was injured, and the patient recovered rapidly and completely.

I proposed employing an abominal plug for making counter-pressure and overcoming cervical constriction in this case as I had done in Dr. Worster's, but the parts

yielded so rapidly that I found no such resort necessary.

The results of the case delighted me, and I flattered myself that in the ordinary means for relaxing cervical constriction in obstetric practice, I had found a therapeutic measure which would prevent recourse to dangerous and prolonged manipulations in inversion, and perhaps even abolish the necessity of the operation of amputation. The perusal of case fourth will inform the reader how baseless were my sanguine expectations:

CASE IV.—Upon the same night upon which I received Dr. Bishop's note requesting a consultation in the case just narrated, I received a letter from Mr. B., of Louisville, Kentucky, detailing the following facts:

He stated that his wife, aged 23 years, a native of Indiana, had enjoyed good health until 21 months before that date. At that time she bore a child, and since then she had been an invalid.

Subsequent to this, menorrhagia of most profuse character had occurred at each menstrual period, and for its relief she had sought medical aid. The physician who was consulted prescribed astringents and hæmostatics, but did not explore the vagina for the cause of the difficulty. Eight months after her labor she fortunately applied to Prof. Henry Miller, of Louisville, the accomplished author of "Miller's Principles and Practice of Obstetrics." This gentleman at once recognized the nature of the difficulty, and proceeded to apply the proper remedy. On five occasions he anæsthetized the patient with chloroform, and employed taxis for an hour and a half. Each effort thus made was followed by the systematic employment of pressure by means of the vaginal air pessary. All his efforts were of no avail. The patient became exhausted and discouraged, and leaving Louisville, sought the aid of Prof. Theophilus Parvin, then residing in Indianapolis.

Prof. Parvin made five determined and prolonged attempts, each one lasting from four to six hours, the patient during their continuance being under the influence of ether, and each being systematically followed by the air pessary. All these efforts resulted in failure, and the patient, exhausted and almost desperate, returned to her home in Kentucky. Here she met with Dr. W. M. Allen, who advised her to make still another trial, and, in accordance with his counsel, she came to me about the last of August.

Upon Mrs. B.'s arrival in the city I was away, but saw her on the 1st of September. When Mr. B. had written to me, asking for a frank statement as to what hope I could hold out, my reply was, that after Prof. Miller and Parvin had failed I was inclined to promise nothing. My mind, however, was so possessed by the idea that belladonna, the warm douche, and the abdominal plug, by which I had twice succeeded, once in a rebellious case, and once very rapidly in a simple one, would succeed in this, that I urged him at least to let me make an effort.

I found Mrs. B. to be a delicate, fragile blonde, weighing about ninety pounds, very pale and exsanguinated from profuse menorrhagia, which had occurred at intervals for 21 months, and much disheartened by the failure of her eminent medical advisers.

The patient was rapidly brought under the full influence of belladonna, administered by rectal suppository, and the warm douche was employed three times daily, for an hour each time. At the end of a week she was anæsthetized with ether, placed upon her back upon a table, and, aided by Drs. Nott, Metcalfe and Walker, I proceeded to make my first attempt at reduction by taxis. For one hour I tried faithfully all the varieties of taxis to which allusion has been made in this paper, and made counter-pressure by the abdominal plug, but all to no purpoee. The cervix expanded nearly up to the os internum, but no further would it yield.

Filling the vagina with a caoutchouc bag, and distending this with very warm water, she was now put into bed. On the next day, at the same hour, exactly the same procedure was gone through with, Dr. Sabine replacing Dr. Metcalfe in the consultation, on account of the indisposition of the latter gentleman. The result was the same, and at the conclusion of the attempt the bag was replaced, filled with warm water, and on the next day the third trial was made.

At the end of the hour no advance was obtained, and I now began to share in the opinion of Dr. Miller, that adhesions existed within the sac, and that no amount of taxis would ever reduce the displaced fundus.

For cases in which reduction has been so far effected that the fundus can be pushed up to a level with the external os, Dr. Emmet has advised and practiced a method which appears to me to be most excellent. It consists in closure of the os externum by silver sutures, so that the

fundus, imprisoned in the cavity of the neck, tends to dilate the construction near the os internum. At a subsequent period the stitches are removed and taxis is practiced again. I should have resorted to this plan here, but the fundus was never sufficiently high to admit of its retention in this way. Dr. Emmet's method will be found described at length in the Amer. Jour. of the Med. Sciences for January, 1868.

On the next day we met again, in the case of Mrs. B. Being desirous of giving the patient the advantage of every resource which would save her from a dangerous capital operation, I went to the consultation prepared to offer two suggestions: the first was that I should pass a delicate tenotome through the fundus, carry it up through the cervical canal, and incise its four sides so as to cut through the constriction existing there, and due to the fibres near the os internum; the second was, that I should draw the uterus outside the body and cut downward through the mucous membrane. The patient having been anæsthetized, I manipulated as usual, except that I employed greater force, for twenty minutes. At the end of this time, no progress being observed, we consulted upon my propositions, and, with the acquiescenee of my colleagues, I pushed the uterus up us far as it would go, then, fixing by my finger the point of constriction, I drew it down, and cut down through the tissue of the neck, the incision first involving the mucous membrane and extending down toward the subjacent peritoneum, as recommended by Aran.*

No soonər was the knife withdrawn than a free jet of blood was projected from an artery which appeared nearly equal in size to the radial. This jet was not per saltum, but steady, as it is often seen to be from small arteries located in dense fibrous tissue. I presume that I cut the circular artery of the neck, which had become increased in size by the displacement of the uterus. For a half hour we strove to ligate this. Upwards of a dozen ligatures were one after the other applied, but the vessel had retracted into the brittle tissue of the uterus, and could not be tied. Dr. Walker went for the actual cautery, but before his return the flow was checked by Dr. Nott's passing a suture through both lips of the wound, and bringing them forcibly together. Of course all efforts at

*Mal de l'utérus, p. 906.

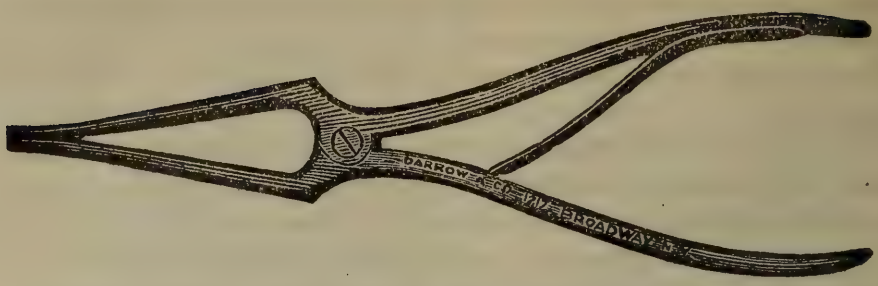
taxis were at an end, for the present; nor did I think it wise or warrantable again to renew them; for fourteen efforts had now been made without any promise of success.

The case then presented itself in the following aspect. Here was a patient whose exsanguinated condition and tendency to profuse hæmorrhages demanded relief from an evil that would soon destroy her life, which on more than one occasion had been in danger from excessive flooding. Taxis had been tried fourteen times, some efforts lasting from five to six hours, and only one less than an hour. The constriction which resisted reduction had been cut at infinite risk, and all had failed. The only recognized operation which now offered itself was amputation, and at the thought of this the patient revolted.

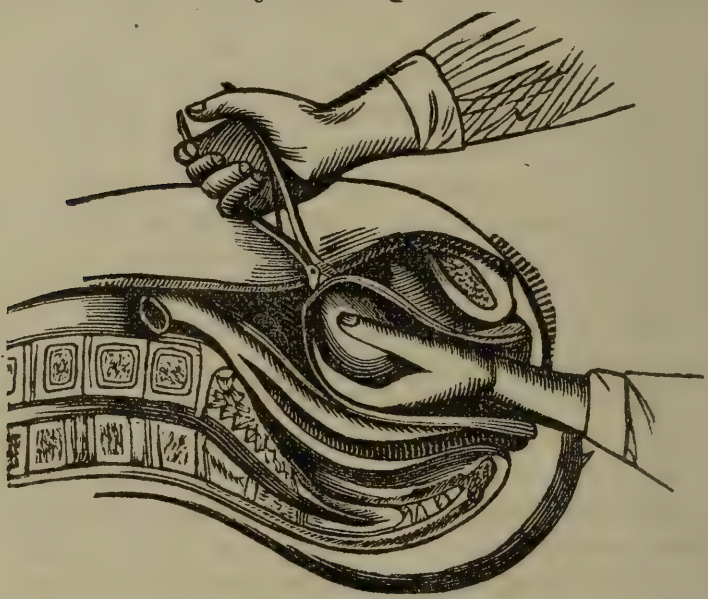
Under these circumstances I proposed an operation which throughout the progress of the case I had kept in reserve, and which, two years before it, I had fully elaborated in my mind. It was, that I should make an incision two inches in length through the abdominal walls and peritoneum, just over the cervical ring; pass into this ring a steel dilator, made on the principle of a glove-stretcher; stretch the constriction; and return the uterus to its place. The propriety of the operation being concurred in by my colleagues, and by my partner Dr. Metcalfe, it was explained to Mr. B., and all its important bearings made clear to the patient herself, of whom I had seen enough to know that her unflinching courage was equal to any trial which promised release from the unfortunate state which for nearly two years had embittered her life and destroyed her usefulness.

After ligation of the circular artery, the mucous membrane of the uterus sloughed extensively and the patient appeared much exhausted. In a week from this time, however, she was in a fit condition for the operation proposed, and it was appointed to take place on the 16th of September.

The instrument represented below was promptly and artistically executed for me by Messrs. Darrow & Co., of No. 1217 Broadway, and I obtained a small anal speculum, and a dilator for stricture of the rectum, to be employed, should sufficient dilatation not be accomplished by the instrument which is here shown.



On the 16th of September the operation was performed in the presence of Drs. R. P. Howard, of Montreal; Hutchison, of Brooklyn; S. W. Francis, of Newport; and Mott, Sabine, Metcalfe, Markoe, G. T. Elliot, Noeggerath, Jas. L. Brown and Walker, of New York. The patient having been put under the influence of ether, Dr. Metcalf introduced his hand into the vagina, and lifted the uterus so that I could detect the cervical ring against the abdominal wall. I then slowly cut down upon the median line, as for an exploratory incision in ovariotomy, and leaving the wound exposed to the air until all oozing had ceased, cut into the peritoneum. I then inserted my finger into the uterine sac, and found no adhesion whatever to exist. Replacing Dr. Metcalfe's hand by my left hand, I now inserted the steel dilator, and, in the manner represented in the subjoined figure, dilated the stricture.



The dilatation was exceedingly easy and rapid, but I found that as I withdrew the dilator, the tissue of the organ would at once contract. After dilating the stric-

ture fully, I partially returned the uterus, after some effort, in the same manner in which reduction was accomplished in Dr. Emmet's case. Drawing it down to the vulva, I rapidly pushed it up, and was gratified at finding that it was nearly replaced. Drawing it down again, this time outside of the body, to my dismay I discovered that the artery, cut one week before, was spouting freely. I now saw that success must be attained at once, or that it would elude my grasp when just within it. Actuated by this feeling, I rapidly returned the organ; and was delighted to find one horn rise into place. But the additional force employed was a little more than the vagina could bear, and one finger passed through between the uterus and bladder. One horn was still inverted. Passing the dilator into this, I stretched it open, and instantly the uterus resumed its normal position.

The time of the operation was noted by Dr. Samuel W. Francis, as follows: patient under ether, 1 hour and 2 minutes; time occupied in opening peritoneum, 17 minutes; time occupied in returning uterus, 27 minutes.

After this the patient rallied rapidly, and her delight at learning that the obstinate inversion had been really overcome unquestionably acted as a stimulant to recovery.

The abdominal wound was closed by four silver sutures, involving the peritoneum, and dressed with cold water. The vaginal rent was not interfered with.

On the next day the artery, which had already given so much trouble, began to give forth blood so freely into the vagina and through the vaginal rent into the peritoneum, that I thought the hæmorrhage would end fatally. The pulse ran up to 160 to the minute; the face and extremities became cold; and so imminent did the dangers of exhaustion appear to me that all preparations were made for transfusion.

Before resorting to this measure, I tried to check the flow by elevating the foot of the bed two feet, so as to throw the whole aortic column of blood back upon the heart, and applied a bag filled with tannin against the os uteri. These measures happily succeeded, and hæmorrhage ceased entirely.

Subsequent to this period, the patient recovered without a single unfavorable sign; the peritoneal edge of the abdominal wound healed by first intention, and on the eighth day after the operation she left her bed for her lounge.

This operation was by no means perfect. The instruments which I employed for dilatation were, I found too late, inefficient; and means for keeping open the constriction, after removal of the dilator, were entirely wanting. I feel very sure that were I to essay it again, which I should not hesitate to do *in a case which had resisted all minor means, as taxis, vaginal pressure, etc.*, and for which no resource but amputation remained, I should succeed more rapidly, easily, and with less risk to the patient.

In reading the description of such an operation as this, the first idea which is likely to take possession of the mind, is that of its being a very bold procedure. This I think is an error. Explorative incisions for ovariotomy prove that the dread which was formerly entertained about opening the peritoneum was much greater than it should be. And if the reader will bear in mind the statistics already given, which prove that $\frac{1}{3}$ or $\frac{1}{4}$ of all operations for amputation of the inverted uterus end fatally, even while essaying, not cure, but palliation of symptoms at the cost of the uterus itself, he must admit that there are good grounds for questioning this conclusion, arrived at without mature reflection.

For the credit of the operation, imperfect as it was, the following facts must be borne in mind by the reader. The difficulties which attended it were none of them inherent to it, but depended upon want of experience as to its various requirements. The patient was subjected to it in a state of great exhaustion from other operations. The evils which followed it, and well-nigh frustrated its results, were due, not to it, but to section of the neck, performed a week before. So far as the operation itself was concerned, the patient recovered without an untoward symptom.

Before concluding my remarks I will venture some advice, based upon the experience recorded in this essay, as to the course which should be pursued in an ordinary case of inversion, and then offer a few suggestions for any one who, in a rebellious case, may be disposed to try the operation which I have described.

In a case presenting itself for the first time for treatment, I should use belladonna and the warm douche for a week, so as to relax the uterine tissue as far as possible, and then for another week employ pressure by means of a caoutchouc bag filled with air or water. After this I should employ taxis, for a period not exceeding one or

two hours, once, or at most twice a week, in the mean time keeping up vaginal pressure by the caoutchouc bag; or, if the fundus were returned within the os, by closure of this, after Emmet's method.

Having failed with these measures, *and not before*, I should resort to abdominal section, modifying the operation which I performed in the following manner. Instead of employing a dilator of two limbs, I should employ one of four; and instead of dilating by the hand applied to the handles, I should distend the instrument by screws. Having distended its four limbs, I should keep the instrument in place for twenty-five or thirty minutes, so as to wear out the tendency to contract before any effort at reduction was made. Even then, before removing the dilator, I should introduce between its limbs something which would exert a counter-pressure against the hand placed in the vagina. For this purpose I would suggest a hard rubber cylinder 1¼ inches in diameter, similar to that shown below, which has a piston passing through its centre and a shoulder or ridge encircling it. This ridge will answer for making counter-pressure; the walls of the cylinder would prevent closure of the cervical canal by tissue contraction of its; and this vacuum created within the inverted uterus, by retraction of the piston, would aid in reducing the body, when pressure is made upon it by the hand in the vagina. The shoulder might be made quite wide, so as to rest on the edges of the abdominal wound, while the extremity of the cylinder passed within the abdomen; or it might be made narrower, so as to pass into the abdomen, and rest on the edges of the cervix, as shown in the diagram.

Cylinder, with piston within it, and shoulder around it, passed down into an inverted uterus.

—[*Am. Jour. of Obst. and Diseases of Women and Children.*

ART. II.—CONTRIBUTION TO THE STUDY OF CONGENITAL SYPHILIS. By W. H. VAN BUREN, M.D., Professor of Principles of Surgery, with Diseases of the Genito-Urinary Organs, Bellevue Hospital Medical College.

The scientific interest, always inspired by congenital syphilis, and its unsolved problems, arises from the grave necessity for accurate knowledge of the subject, which is daily felt by the physician in dealing with the tenderest interest of humanity. The serious and complex question as to the propriety of marriage, the best mode of rearing infected offspring, the chances of their ultimate and entire restoration to health, the remoter consequence of congenital poisoning, are among the many difficulties which are yet awaiting the positive solution that science requires. This result is to be attained, not by polemical discussion and criticism of disputed doctrines, but rather by striving to see clearly and to note truthfully the facts which are daily passing before our eyes, content to sacrifice personal predilections, and to leave the result to the future. It is not given to every man to generalize, certainly not to generalize correctly, from insufficient data. But there are few practicing physicians who cannot furnish the details of some facts which have fallen within the scope of their own observation and experience, bearing upon these unsolved problems; and it is from such facts as those that the science of the future is to be built up—slowly and laboriously, perhaps, but surely and certainly.

In this spirit, I contribute the following history, which, although meagre in some of its details, I have endeavored to relate as accurately as the circumstances have permitted:

At the age of 20, B. had chancre in Philadelphia, in the winter of 1854–55, for which he took mercury for three weeks, and was slightly ptyalized. The next year he had chancres in Florence. In the succeeding year he contracted gonorrhœa in Paris, which was followed by buboes in both groins, with suppuration on one side, and by warts. In the spring of 1857, he had chancre again, for which he took mercury for a month. In the autumn of 1857, he called upon me for an opinion as to the propriety of matrimony. The Florentine chancres had destroyed about one-half of the glans penis; and it was this

deformity alone that occasioned the doubt in reference to which I was consulted, as I was told on enquiring as to the existence of any symptoms of constitutional syphilis. He had no anxiety on this score, having never been conscious of any secondary symptoms, and refused entirely to entertain the idea of constitutional infection, of which, indeed, he presented no external evidence, being apparently in robust health. I decided that the deformity of the penis was no impediment to marriage, and he declined any further examination. After this he was not exposed to the risk of any new contagion. In August, 1858, he married a perfectly healthy party, never before married, and, at the end of nine months and seventeen days, his wife was delivered of a healthy female child, who is still living, and who has always enjoyed robust health.

In June, 1860, a second female child was born, with defective development of the brain and spinal cord. This child, as far as I can learn, never manifested any of the ordinary evidences of congenital syphilis. It showed a great deal of tenacity of life, although idiotic and paraplegic, and died at the age of five, from the consequences of whooping-cough.

In October, 1860, I was consulted in regard to the wife and the second child. The former, from the enjoyment of brilliant health, at the time of her marriage, had become gradually pale, weak and emaciated, without obvious cause. She had nursed both of her children. I was unable to make out any symptoms of secondary syphilis, save a characteristic ulcer upon the side of the tongue, of at least six months' duration; she had also a gummy tumor, the size of a hickory nut, in the left *labium majus*. These symptoms disappeared, and her health rapidly improved under the use of the bi-chloride of mercury and the iodide of potassium, which were continued for more than a year, and pretty regularly, as far as I can learn, under the supervision of a highly intelligent physician, in a distant city.

In 1861, I was consulted by the husband for amblyopia, and referred him to my friend Dr. Agnew, who recognized "ophthalmoscopic signs of *retinitis syphilitica*, of a mild type, and distinct indelible retinal lesions, such as patches of proliferated tissue and atrophy." These were the first evidences of constitutional syphilis he had manifested. These syphilitic lesions were also complicated with those of *amblyopia potatorum*. He was advised to

use the bi-chloride of mercury, which he did, somewhat irregularly, for several months, and, as I satisfied myself at a later period, with great benefit to his sight. This, indeed, he also recognised, for he resumed its use, subsequently, of his own accord, on several occasions.

In January, 1862, another child was born (a boy), who, as learned I from the family physician, in a letter dated April 9, 1862, "appeared quite healthy at birth, and continued so until three weeks ago, when an eruption made its appearance, complicated with excoriations around the mouth and nose, which gradually invaded the whole body, and was," in the writer's opinion, "decidedly syphilitic." He adds: "There are at present no marks of morbid action in the mother, but she has resumed the use of the corrosive sublimate, and is nursing the child." The boy was treated by the hydrarg. c. creta, for a few weeks, and the symptoms detailed above disappeared, but he remained pale and delicate. In February, 1866, the beginning of his fifth year, he began to suffer from nocturnal pains in both tibiæ, and this symptom was shortly followed by periosteal swelling, involving about three inches of the subcutaneous surface of both bones. He was brought to me in the autumn of this year, when I verified these symptoms, and ascertained, also, that the boy had been affected by complete paraplegia, which had continued but for one day, on two different occasions, and that he habitually suffered from irritability of the bladder, requiring to be taken up two or three times every night. He had also frequent attacks of pain through the nose, at the base of the cranium, and elsewhere. I found enormous nodes on both shins, and another on the subcutaneous surface of the right ulna. He was pallid, irritable, dejected, easily fatigued, dainty and capricious in his appetite, and sleeping badly from nocturnal pains. No specific treatment had been employed since the first three months of his life.

The mother was in apparently perfect health, with an excellent color and robust appearance, and had been in this condition for three years. The first born daughter, whom I also saw at this time, was a model of health. The boy was subjected at once to the systematic treatment of cod liver oil and the iodide of potassium, in doses of two grains, afterwards doubled. All of his symptoms gradually disappeared within the month, and he left the city immensely improved in appearance and strength,

some prominences of the tibiæ alone remaining. After this the remedies were employed irregularly, and he became more delicate again. At the period of second dentition, I learn from his dentist, in a letter dated October, 1869, that he found "unmistakable evidences of the disease upon his incisor teeth, the development of the enamel quite imperfect—in fact, what I call syphilitic teeth."

About this date, the father again came under my observation, suffering from irregular, nodulated and tender shins, superficial ulcers at the angles of the mouth, a yellowish patch on one tonsil, and a circular scaly spot, as large as a sixpence, on one of his palms. He had been exposed to no new infection. These symptoms commenced to yield promptly to mixed treatment. His general health is vigorous.

I learn that another child was born to him in October, 1867, the mother's health having continued excellent up to this period, when an ovarian enlargement was detected, which led to a fatal complication in the form of peritontis, some weeks after delivery. This child survives in excellent health, having shown no evidences whatever of disease. The boy, now seven years of age, is still delicate, suffering occasionally from pains in the legs.

In this history, a sound, healthy woman is married to a man of unusually vigorous constitution, certainly affected with the syphilitic diathesis, but not aware of it, and they have four children. The first is healthy, the second idiotic, the third syphilitic, the fourth healthy; the mother having acquired the disease, and anti-syphilitic treatment having been employed, by which she was apparently cured, the father showing evidences of the disease. The mother acquired the disease during the first pregnancy and lactation, and, as the child is healthy, this contamination was probably an example of direct secondary contagion, the alternative being that she was poisoned by a child who has never shown any evidences of disease. The second child was born, both parents now suffering from the disease, with arrested development of the cerebro-spinal axis, but showing none of the ordinary evidences of congenital syphilis. Was this arrest of development due to the syphilitic poison?

A third child was born after both parties had been subjected to anti-syphilitic treatment, but apparently not to an extent to save the offspring from infection. The dis-

ease in this child, assisted by treatment, passed through its secondary stage, to reäppear four years later in its tertiary form, and here it assumed that somewhat rare phase of infantile syphilis in which the osseous system is involved.* It is noticeable that in this child there has been no sign of scrofula.

After further perseverance in anti-syphilitic treatment, the mother seems to have passed through the tertiary stage of the disease, and, apparently, to have recovered her health entirely. The father, less steady in the use of remedies, is not so happy; having manifested, still later, advanced secondary symptoms, unmistakeable in character. Under these circumstances, another child, in all respects healthy, is born to them.

It is worthy of remark that the father, with no obvious signs of syphilis, or even of cachexia, communicates to the wife disease, with marked cachexia, which rapidly runs into its final stage and apparently gets well; the diathesis, more firmly established in him, yet milder and more chronic in its subsequent manifestations, still persisting. Also, that the mother, with tertiary symptoms, gave birth to a son who had secondary symptoms, the father having not yet passed the secondary stage; and that his son had, subsequently, tertiary manifestations. Finally, that the mother had no abortion or miscarriage, and nursed all her children.—[*American Journal of Syphilography.*

*A case which I observed; in 1853, of congenital syphilis, involving the osseous system, recorded by my friend, Prof. Bumstead, in his excellent work on venereal diseases, p. 465.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D.

At St. George's Hospital, Mr. Pollock employs carded oakum in the treatment of suppurating wounds, burns, senile gangrene, amputations and chronic abscesses. It was used largely during during the late American war.

It acts as an antiseptic and its tarry odor generally destroys all the unpleasant emanations from unhealthy wounds. It is cheap and can be applied with ease. It is recommended in the treatment of bed-sores.

Sulphurous Acid in Syphilitic Ulceration.—Dr. Murchison has recently tested this remedy at the Middlesex Hospital, with a favorable result, in the case of an old woman, with tertiary syphilitic ulceration of the pharynx, involving deeply the posterior pillars of the fauces. Iodide of potassium with chlorate of potash was employed internally and the sulphurous acid (one part to four of water) was used locally in the form of spray. The ulceration was speedily checked and continued to improve so long as the application was kept up. When the treatment was omitted for a short time the ulceration recommenced.

Dysphagia Treated by large doses of Atropine administered hypodermically—A woman, who had some months before swallowed a quantity of sulphuric acid, had dysphagia, vomiting and pain, after swallowing food. There was cicatricial contraction of the œsophagus, but the symptoms of the obstruction varied in intensity, the woman being better at one time than another. Dr. Murchison thought the use of atropine was indicated for the relief of the spasm. The patient was very much benefitted by its employment. The dose administered hypodermically was at first 1-40 grain once daily; afterwards it was increased to 1-32 gr., then to 1-20 gr. occasionally twice daily; and finally 1-14 gr. was given twice daily. Although at much as 1-7 gr. was at last given daily, no effect on the pupils was observed.

[Special attention is called to the very large doses of atropine employed in this case without consequent symptoms of poisoning. No allusion is made to its physiological effect in diminishing the secretion of saliva. The maximum dose given by some author is 1.60 gr. A number of gentlemen in this city have administered it in much larger doses than 1-60 gr. J. M. H.]

Mr. R. Dunn reported to the Medical Society of London a case of poisoning by aconite; in which death appeared imminent. The patient recovered under the "vigorous administration" of sal. volatile, brandy and

chloric ether. The quantity of each taken in nine hours was, 10 oz. sal. volatile; 6 oz. chloric ether; one pint of brandy; one bottle champagne; besides strong coffee and tea.

Recovery of a Case of traumatic tetanus treated by subcutaneous injection of Calabar Bean.—Dr. William Haining reports, in the Lancet, Dec. 1869, a full history of a case, of which the following is a summary: The foot of a laborer, aged 29, was crushed, requiring amputation of the leg, upper third, on the first of June. Seven days afterwards the anterior flap became gangrenous and sloughed off in a few days. On the *seventeenth* day after the operation symptoms of tetanus supervened, followed on the next day by lock-jaw and opisthotonos. Ext. calabar bear, one grain every three hours, by the mouth. On the 20th, severity of symptoms increased, the dose was doubled, each being followed, in less than one hour, by complete relaxation of jaw. On 22d, muscles of trunk being rigid and stump twitching violently, three grain doses were required to relieve the spasm. This quantity caused vomiting and had to be discontinued. The severe symptoms returning during the night, the extract was injected under the skin in ½ grain doses, with the effect of relieving the spasms more speedily, but less permanently. The injections were gradually increased until on the 8th of July, they amounted to *forty-one grains* within little more than *twenty-four hours;* the largest individual dose being *six grains.* Being purposely omitted for ten hours, on the 29th of June, all the symptoms returned with great severity; when "an injection of three grains gave complete relief in seven minutes." The extract was continued with uniform success in relieving the spasms until the 19th of July, when they disappeared altogether. On the 24th, he was able to leave his bed. No other remedial agent was employed, the patient being sustained by a nourishing diet. The puncture by the instrument invariably increased the spasm temporarily, when present; and during convalescence, a number of abcesses formed at the sites of the punctures, which, after being opened, healed rapidly.

The largest doses of calabar bean, on record, were given in this case; and it is a matter of interest to note the almost instantaneous relief of the severest tonic and clonic spasms by its administration hypodermically. The

supervention of the tetanus is attributed, by the reporter, to the irritation caused by the ligatures around the arteries which were slow in coming away.

Sudden Dilatation for the Cure of Phymosis.—Dr. Cruise recommends this method as sufficient for the cure of an affection which has heretofore required circumcision, partial or complete. By sudden dilatation the contracted mucus membrane of the prepuce is ruptured. He thus describes the procedure and the instrument employed: "The handles resemble those of a pair of scissors, whilst the blades are bent at right angles and terminated in rounded points. These separate as the handles are approximated, the degree of separation being regulated by an arc and screw-nut between the handles. The degree of separation required may be estimated by casting a loop of thread round the glans penis, and so graduating the nut on the arc that on compression of the handles, the blades separate sufficiently to tighten it. The preputial orifice is now sought out, exactly where the skin and mucus membrane unite. The closed blades are carefully introduced, care being taken to avoid the urethra, and the handles firmly and suddenly closed. The pain is sharp but temporary; no bleeding follows. The foreskin is then retracted over the glans penis and allowed to remain for forty-eight hours and a moistened pledget of lint applied to the parts."

Subcutaneous Injection of Water.—Experiments, recently made, show that the hypodermic use of water over regions where intense pain is felt, if followed by speedy relief. When water, on the one hand, and solution of morphia on the other, were employed, each was followed by a speedy subsidence of the pain; but the effect was more permanent when the latter was used.

Embalming of Mr. Peabody.—The following was the plan adopted by Mr. Pavy, in the preservation of the body of this celebrated man. The whole body was injected, through the arteries, with a strong solution of arsenic, containing, also, some bi-chloride of mercury. Twenty-four hours afterwards, a saturated solution of tannin was thrown in, with the effect of converting the gelatinous tissues into tanno-gelatin. None of the internal organs were disturbed. He had been dead two and

a half days before the process was commenced; nevertheless the plan proved a complete success. A pasty solution of arsenic was poured into the abdominal cavity through an aperture in the diaphragm.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LESSONS FROM THE MEDICAL CLINIC AT THE "HOSPITAL DE LA CHARITE," GIVEN BY S. JACCOUD, Assistant Professor to the Faculty of Medicine at Paris, Physician to the Hospital St. Louis; Chevalier of the Legion of Honor; Corresponding member of the Royal Academy of Science of Lisbon, and of the Medical Societies of Berlin, Vienna, Wurzburg, etc. Containing 29 Wood-cuts and 11 Chromo-lithographs.

[Translated by Dr. J. D. JACKSON, of Danville, Ky.]

SECOND LESSON.—TREATMENT OF PNEUMONIA.

Analysis of Thermoscopic traces of Four Cases of Pneumonia—Frank Pneumonia—Of the Redness of the Cheeks—Adynamic Pneumonias—Artificial Adynamia from Tartrate of Antimony—Therapeutic Indications. Of the Indications for Blood-letting in Pneumonia—Dyspnœa—Effect of Blood-letting upon this Symptom—Practical Consequences—Of the Signs Furnished by the Pulse, with the View to Blood-letting—Of apparent Feebleness, or Oppression, Etc.—Pathological Interpretation of this state—Of the other Indications for Blood-letting.

GENTLEMEN. The patient whose case we studied in our last lesson, gave me an occasion to expose to you, the natural march of pneumonia, and to define for you, the case in which complete abstinence from all therapeutic means—pure expectation, constituted the best treatment to oppose to the malady. I wish to-day, to go a little further into this subject, the practical importance of which, can-

not be exaggerated, and I propose to study with you, the indications of the principal methods which art has adopted against pneumonia.

For arriving in this question at sound notions of a precise character, which can faithfully guide us in practice, it behooves us not for an instant to lose sight of the teachings of physiology, which are the basis of all rational therapeutics, as they are the foundation of all scientific pathology; it is besides necessary to accept with impartiality, without blindness, (but also without premeditated opposition to) the positive records with which contemporary observation has enriched science. I will not fall from either one of these obligations, and the three patients which we have to occupy you with, will be to you at the same time, an example and a demonstration.

But by way of prelude, and not to have to revert to this part of the subject, I will show you the thermometric curves which represent the progression of our four pneumonias.* The first (fig. 1.) is that of the man who was the subject of our preceding conference. During the ascensional period, it arose to 40°. 2 (cut); during the period of the acme, (or heighth, the duration of which was forty-eight hours,) the heat maintained itself between 39°. 2 and 39°. 9. This last point, the highest of the period, immediately preceded the ushering in of the defervescence; then in twelve hours the thermometer has fallen to 1°. 5, and on the fifth day, in the morning, we have no more than 38°. 4. If you make deduction from the exacerbations of this evening, which have not exceeded four-tenths, you see that the temperature has approached the normal, without interruption, which has been attained on the seventh day in the morning; the defervescence then, is effected in forty-eight hours. The

* All of the "cuts" to which allusion is made in this article are exactly similar to those published in the February issue.

examination of the table shows you besides, that the march of the pulse has been regularly parallel with that of the temperature; this connection is generally observed, but it does not always present the rigorous exactitude which you perceive in the case before you.

The second curvature (fig. 2.) is taken from a female of 32 years of age, (Saint Anne's ward, No. 1.) who has come to us with a pneumonia of the left inferior lobe. For the same reasons I enumerated at length as apropos to the preceding case, the patient has been abandoned entirely to herself, and you have been able to follow the rapid spontaneous cure. We know nothing of the ascensional period of this pneumonia, which we did not observe until the morning of the fourth day. The evening of the fifth day, the temperature is elevated to 40°. 2; on the morning of the morrow, it was 39°. 4, and on the evening of the sixth day, far from finding an exacerbation, we observe no more than 38°. 2: this, then, doubtless was the signal of the crisis, and forty-eight hours after the beginning of the fall of the thermometer, it attained the number 39°. 2, and the deferversence was complete. Then a peculiarity presents itself, to which I would attract your attention, although I cannot entirely give you the explanation of it: the evening of the seventh day, the thermometer remounted to 38 degrees; it maintains itself during two days at one or two-tenths of a degree below this number, to refall finally to 37°. 4, then to 37°. 2. Nevertheless, an examination of the lung shows the liquefaction and elimination of the exudate to be regularly undergoing completion; no new incident was developed, it was certain that the defervescence observed on the 6th and 7th day was legitimate; besides, the general state of the patient, superabundantly demonstrated it. A remarkable thing here was, the fall of the pulse was much slower, than that of the temperature, and it did not attain

a normal number for forty-eight hours after the thermometer had definitely fallen to 37°. 2. I have hitherto, two or three times observed this aggregation of exceptional phenomena, and have not observed that the cure was troubled or retarded: this remark is fully confirmed by the fact of to-day; after the defervesence, the local reparation is effected much more rapidly, than with our first patient, without there being any need of coming to his aid.

This patient has presented us with a phenomenon which we have found with the woman of No. 8, and I take it as proper to attract your attention to the fact, that it is in perfect contradiction of the classic teachings upon this point. You know, that among other visible signs of pneumonia, that redness of the cheeks has for a long time been indicated: now, this symptom can fail completely: a prime fact which ought not to be forgotten. When it exists, the redness may occupy the two jaws, but it can also show itself upon but one. This was precisely the case with the two patients of whom I speak; but the unilateral redness was seated, on the side opposite the pneumonia, contrary to the opinion generally prevalent, which generally localizes it, upon the corresponding side. Is it always as in the two women, whom you have had under your eyes? I would be careful in saying, since M. Gubler has made his observations with an irreproachable precision, which shows clearly the redness of the cheek on the same side as the lesion of the lung; but this I can affirm, that I have already observed two apparent facts, pneumonia clearly limited to a single lung and a unilateral redness of the opposite cheek. To these four cases, upon which there was no possible doubt, seen with reference to a phenomenon offering no difficulty, and which I have taken care to put beyond the cause of error due the decubitus of the patient, I can add a fifth more in-

teresting still, because it embraces a double lesson. It was two years since, I was myself seized with a frank pneumonia: it was seated upon the right, and during the two first days, the redness of my left jaw, contrasted in a striking manner with the color of the right; more, the redness of my left cheek coincided with a disagreeable sensation of warmth in all the left side of the face. But this is not all. This pneumonia seized me abruptly, brutally. I was substituting here my regretted master and friend, Professor Natalis Guillot, and I was getting along well in my service, when at the fourth or fifth bed of my ward, I took a chill of the most intense kind, with trembling and chattering of the teeth, this chill endured until the middle of the day, and in the evening only, it was a Monday, I experienced a pain in the side. Now, the day preceding, Sunday, toward evening, quietly engaged at work, I had experienced unusual warmth on the left side of my countenance; still experiencing it, I looked at myself in the glass after some time, and my cheek was of a lively red. This phenomenon persisted until the close of the day; it still remained when I went to bed, and on the morrow only I had the explanation. But, whilst from the seat of the symptom, I apprehended a pneumonia of the left, the pulmonary inflammation was on the right side. The redness of the cheek, which is evidently the result of a perturbation of the vascular nerves, had then preceded by fifteen hours, the chill, which revealed the phegmasia, and this had preceded the thoracic pain, ten hours. This new fact, is very interesting in view of the chain of sequence of the initial phenomena of pneumonia; it shows peremptorily, that the chill is not the first thing in the order of development of the malady, and that before it, there are alterations in the lung capable of modifying the action of the vascular nerves, and this very markedly, inasmuch as the perturba-

tion is propagated at a distance, as is revealed by the redness and abnormal heat of the cheek. This is a delicate and an early observation, occasion for which, presents itself but very rarely: one can scarcely be expected to make the observation except on himself: so that I do not regret the disease which permitted me to demonstrate and present to your knowledge this interesting fact. As for the seat of the redness on the side opposite the lesion, a phenomenon which I have already observed five times, in my experience, it finds its explanation in the decussation, very variable, and but little demonstrated until now, of the branches of the sympathetic, and par vagum nerve, which enter into the composition of the pulmonary plexus. This is one of those facts, in which pathological observation can, and ought to complete the teachings of anatomy and experimental pathology.

Our third case is worthy of interest in many respects. A young man of nineteen years, of medium constitution, rather feeble than robust, came to us on the sixth day with a pneumonia occupying the inferior lobe and a small portion of the middle lobe of the right lung. The evening of this day, the pulse was 120; the temperature attained the disquieting number of 41°. 2; the hepatisation was total and uniform (fig. 3). Twenty-four hours later, on the evening of the seventh day, the pulse was 116, and the thermometer marked again 40°. 8. Dating from this instant the crisis commenced: the morning of the eighth day, we found the pulse 84, and 39 degrees for the temperature, the vesperal exacerbation, did not bring an exacerbation beyond four-tenths. The ninth day, in the morning, we are at 38 degrees, the evening at 38°. 2: all goes well, and we announce on the morning of the tenth day the return of the normal heat. Our anticipations were not realized; from this moment, we are again at 38 degrees, and on the evening of the

same day, we find again to our great astonishment, the enormous number of 41°. 2; the pulse has remounted to 120. What had taken place? The thermometer permitted the affirmation, that although the patient found himself feeling equally as well as in the morning, generation of inflammation had been produced; and indeed, the reparation continued to go on in the right lung, but a very limited pneumonic point revealed itself in the left. This new development, was besides of very short duration. The eleventh and twelfth day, the temperature maintained itself above 40 degrees; but the thirteenth, in the morning, it was not higher than 38 degrees; and in a new step of forty-eight hours, the thermometer attained the number 37, below which it again fell to mark no more than 36°, 8 on the morning of the fifteenth day. The cure this time was final.

You see, gentlemen, that there exists an instantaneous and mathematical correlation between the results of the thermometrical exploration and the state of the organism; and in case of a sudden and abnormal elevation of the temperature, and especially when the critical fall has been established, the obligation is imposed upon us of examining then with the greatest care the respiratory apparatus, for it is a certain sign of a new complication.

The thermometrical curvature which you have before you, permits the demonstration of an interesting fact, which is not peculiar to pneumonia, but is equally encountered in the other febrile maladies. The final defervescence has brought the temperature of the patient, beneath the physiological degree. The thirteenth day in the morning, presents us with 37 degrees, and forty-eight hours later, the fall having continued, we have no more than 36°8; the fifteenth day the heat has remounted to the normal number. A similar phenomenon is not rare; sometimes even, the temperature remains longer

than with our patient beneath the natural limit, and does not remount until the convalescent, under an appropriate regimen, commences to pick up his forces and repair his losses. This unnatural coldness is always a sign of feebleness; and is a thing observed either in weak individuals or in those who otherwise robust, have been made so at the expense of a prolonged, or exceptionally intense fever.

But the interest of the pneumonia, the different phases of which I am going to read to you, is not confined to the thermometric phenomena, and I call your most serious attention to the teaching of another order, which springs from the clinic. When we had seen this young man for the first time, on the sixth day of the inflammation of the lungs, he was in a state truly alarming. The local symptoms presented nothing unusual; but with the enormous temperature and the rapid pulse which I told you of, the patient was under the stroke of a profound prostration: immobile, the eyes half-closed, he was aroused with difficulty from his state of somnolence, to respond by words painfully articulated, to the questions addressed him; on ceasing to speak to him, he would fall back into his apathetic indifference, never speaking anything spontaneously. Besides the features were drawn, the eyes surrounded with a dark circle (du cercle noir abdominal), and the cheeks were patched with violet red spots, which are too often of sinister augury. The tongue was dry, the skin slightly clammy, and the smallness of the pulse was not less striking than its frequency. The aspect of the patient exhibited something more than the characteristics of frank pneumonia, and to make the diagnosis only from the exterior appearances, one had certainly affirmed the existence of a grave typhoid fever in its second week. To these phenomena, gentlemen, add a diarrhœa of three days duration and you will doubt-

less comprehend that the situation was truly disquieting We have on the sixth day of the disease, a pnemonia accompanied by a diarrhœa and adynamia; the temperature attaining the maximum observed in this disease; the fever was violent; there was fear that we had to do with one of those cases, the organism of which could not bear the expenditure of the pyrectic work, and which fall rapidly exhausted into a mortal collapse. If the things presenting were really thus: if no accidental circumstance comes in to explain this alarming state and attenuate its significance, the prognosis was absolute, irrevocable; the patient was lost. But before pronouncing this decree, it was necessary to exhaust the list of possibilities; and, as the patient did not come to us until the sixth day, it was necessary before all else, to recollect the history of these six days, and learn if this young man had not undergone some therapeutical action which could account for the grave symptoms we observe. This is—and never forget it—a precaution of the first importance Whenever you have not followed a patient's case from the beginning—whenever you are ignorant of the pathological and therapeutical phases he has traversed, you ought to suspend your judgment and exercise all your care in disengaging the primordial elements necessary to form a judgment. Then only are you able to pronounce and act in accordance with a true knowledge of the cause.

It was evident that our patient had been treated before his entrance into the hospital, for he bore upon his chest the remains of a blister, dating at least three days back; on the other hand, we found no evidence of blood-letting, either general or local, and upon this point we were able to satisfy ourselves *de visu*. But this knowledge was not sufficient. Certain medicines given in large doses, or too long continued, have, as their final result, the production of a complete collapse, differing in nothing from that pro-

duced by the malady; and this was the important point which ought to be elucidated. It was not very probable that the treatment practiced on him had consisted simply in the application of a blister, any way, we ought to make all effort to clear up a question, the response to which might perhaps modify entirely our judgment and our conduct.

After persevering questioning—a thing which the condition of the patient made singularly difficult—I finally attained my end. This young man had been treated from the second day of his malady; and during the time the blister had been applied, there had been administered to him a potion, the nature of which he could not indicate, but this potion had produced nausea and vomiting, phenomena replaced on the day following, by a persistent diarrhœa. We could no longer hesitate; this potion certainly contained tartrate of antimony; and, as it had been continued to the middle of the sixth day—that is to say, during four days and a half—it is to the influence of this medicine we must attribute the remarkable collapse, which neither the condition of the patient nor the extent of the pulmonary lesion can explain. From this everything changed its face. He is no longer affected by an adynamia naturally originating from an enfeebled organism. It was an artificial adynamia which we had to combat, and it was very probable, considering the age of the individual, that it would rapidly disappear with the cause engendering it; and that the patient delivered from this perturbing element, could still accomplish happily his normal evolution.

I proceeded then at once to interrupt a medication already too prolonged. I prescribed as a drink a light soup, and you have been able to perceive for yourselves the rapidity with which the patient rallied from his state of prostration; from the next day (the seventh) the

diarrhœa was arrested; the pulse, hitherto so frequent, had resumed its natural force; the face began to be reänimated, and the eighth day, in the morning, the young man presented the remarkable defervescence whose characters we have studied. All then went well; our anticipations were fully justified, and this favorable sequel demonstrated the true origin of the adynamia. However, he was yet to endure its effects, for after the fall of the fever, he was manifestly more enfeebled than a man of his age would have been on the ninth day, of a frank pneumonia abandoned to itself; therefore, when on the tenth day I perceived the return of fever, and new pneumonic points to appear, I was at once made seriously uneasy, and without troubling myself otherwise about the vivacity of the febrile movement, I hastened to fulfill an indication wnich appeared to me imperiously positive. A treatment strongly tonic was instituted; the patient took 3 grammes a day of extract of quinquinia, 250 grammes of Bordeaux wine; I gave him for a drink (tisan) wine and water; for diet, soup four times; and four days later, we had the satisfaction of seeing this man out of danger. Six days after, he quitted the hospital perfectly cured. We may look on it as certain, that the treatment adopted had had for its effect, not only to hasten the commencement of convalescence, but notably to abridge its duration.

This important fact, the analogue to which is far from being rare, ought to be to you the source of many lessons; it gives you a knowledge of the state of artificial adynamia, which results from tartar emetic; it shows you that it is not always proper to impute to the disease *per se* the symptomatic phenomena observed; it proves to you the necessity of extreme circumspection in clinical conclusions, and you learn the means of avoiding error; it permits you to seize one of the clearest indications for

tonic medication in pneumonia; finally—and this is not the least important—it demonstrates to you peremptorily, mathematically, without possible reply, that the perturbative treatment instituted in the city, had an effect upon the patient but none upon the disease, the duration of which it did not abridge an hour. Contemplate well the situation: the young man had been put upon tartrate of antimony from the second day of his disease; the medication had been continued to the middle of the sixth day, and notwithstanding, the defervescence did not commence until the eighth day in the morning, later consequently, than in the majority of pneumonias left to their natural march. In fact the treatment did not ease the patient, it did not modify the malady; it then had no result. Pardon, I deceive myself—it did have one: it plunged the patient into a complete collapse, by which he ran a real danger.

I come to our fourth case of pneumonia. It concerns a woman of thirty-eight years of age, entering Saint Annes Ward No. 8, on the fifth day, of a pneumonia affecting the right side, which had produced complete hepatisation of the inferior and middle lobes.

The thermometrice curve, (fig. 4), shows you that the temperature did not exceed 39°.8,* and that the crisis commenced on the seventh day in the morning, completely effected on the ninth, it did not present the continuous characteristic depression. These irregularities, which show you that the disease did not have its habitual precision during its progress, have been characteristic of the general conditions of the maladies. The lesion presented nothing unusual, either in the period of its heighth, or its decline. The examination of this fact, the statement and justification of my management, permit me to complete the study of the treatment of pneumonia.

*To obtain the Fahrenheit equivalent for any degree of the centigade scale, multiply the centigade degree by 9, divide by 5, and add 32.—[Ed.

Although only 38 years old, this woman in No. 8 had a cachectic appearance which struck one at the first glance, and which had been engrafted upon the malady. Of naturally a poor constitution, this unfortunate one had borne the hard burden of want; and her organism had for a long time been taxed to supply an inefficient reparation. Under such conditions, it was certain that a malady, however acute, would take with her an adynamic form; and when you have seen her on the fifth day of pneumonia, free from all treatment, she offers you indeed a striking tableau of the collapsed state.

The course to follow, was then very clearly traced; and laying aside every depressing therapeutic method, it was necessary to engage quickly in sustaining the failing organism, and to give it, if there was yet time, the force necessary for sustaining the disease, and attaining its resolution.

How comes it then, that I hesitated a little before taking these means, and that you heard me discuss the propriety of blood-letting?

It is because our patient presented, along with the profound adynamia, an enormous dyspnœa, which obliged her to be seated rather than lie down in her bed. Her high, anxious, and groaning respiration reached 40 in the minute; and if anything could astonish one, it was the absence of cyanosis, with a notable difficulty in the respiratory act. Now the dyspnœa in pneumonia has always been given as a positive indication for blood-letting, and in the presence of the anxiety of the patient, I could not help thinking of this traditional precept. I knew that in like cases, a large emission of blood is a heroic means of giving relief from the dyspnœal symptom, with marvellous rapidity. I knew also, that the difficulty of respiration, can powerfully contribute to the production of collapse, and in the midst of these contradictory ele-

ments, I hesitated. The hesitation you will see was more than legitimate—it was a necessity—for this was one of those cases, in which an improper conclusion could kill the patient.

To sum up, we found ourselves in presence of two opposite indications: the dyspnœa imperiously demanded blood-letting; the anterior conditions and the general state of the sufferer forbade recourse to it; there was no possible compromise between these two terms, it was necessary to choose and obey within that hour one of these indications. Which should it be? There was the question.

After a new and attentive consideration of the case, I rejected blood-letting and prescribed wine of Bagnols and extract of quinquinia. The reasons for my determination, I now wish to expose to you. It will suffice with me for this, to recall to you the pathogenesis of the dyspnœa in pneumonia, and to examine with you the precise action of blood-letting upon this phenomenon.

As to the first point, we have established the fact, in our preceding lesson, that the dyspnœa of pneumonia results from a multiplicity of causes, which can be placed in two groups: physical modifications, which mechanically diminish the field of hæmatosis and the absorption of oxygen; chemical modifications, resulting from a febrile superactivity of organic combustion, and having for effect a greater consumption of *gaz comburant.*

Now, bleeding does not act except on the mechanical element of the dyspnœa. You take blood; thereupon the tension falls in the arterial system, and particularly in the pulmonary artery, where it had abnormally accumulated; the circulation from the heart to the lungs becomes more active; the peripheric stasis around the hepatised tissue diminishes; the greater permeability of the lung, the more complete and more rapid renewal of the

blood in the respiratory apparatus, concur to facilitate the æration of the liquid. Physiology teaches that in these changed new conditions, the dyspnœa ought to diminish; in truth it does, the relief of the distress is instantaneous. But, wait a little and you will see what will come to pass.

This relief, gentlemen, is fatally temporary. Scarcely a few hours have passed since the bleeding, when already, the blood extracted is replaced by water; so that in a mechanical point of view, the conditions of the circulation have evidently returned to the same condition. The dyspnœa than reäppears more intensely than before, for reasons which I will soon tell you; and if you wish to rerender your patient the momentary amelioration which he had enjoyed, it is absolutely necessary to practice upon him a new abstraction of blood, which for that matter, he oftentimes asks for himself, so great has been his relief from the first. The same effects then, the same necessities reproduce themselves thus, until the resolution of the phlegmasia and the fall of the fever, cause the final disappearance of the dyspnœa and the causes giving it origin.

Retain then, this first fact: the relief produced by bleeding is momentary, because the mechanical conditions which it modifies, necessarily reproduce themselves at the end of some time. This is not all. The bleeding produces in the chemical constitution of the blood important modifications, which it is essential to know to exactly appreciate the action of this therapeutic means. The most important of these modifications are the following: an augmentation of the water, an increase of fibrin and a diminution of globules; consequently, the bleeding acts upon the blood in the same manner as the phlegmasia; and, as this state of the blood is—as we have seen—an efficacious cause of dyspnœa, it follows that

your emission of blood, which for a moment diminishes some of the mechanical conditions of the difficult respiration, adds directly to the power of the chemical causes keeping up this symptom. You lose on the one side what you gain on the other, and you thus turn round in a vicious circle. This circle has no ending, at least its nature does not bring about a resolution of the inflammation, and observation confirms this conclusion, anticipated by the dictates of physiology.

By way of final analysis, blood-letting marvellously relieves the most painful symptom of pneumonia, dyspnœa; and, if one repeats the remedy, just as the disease reproduces itself, one can thus give the patient the benefit of a durable relief, by virtue of which he more quietly goes through the natural phases of his malady.

But, gentlemen, think well; the first duty of the physician is not to relieve, it is to cure, or to speak more truly to aid the patient in his cure. If the bleeding was a perfectly inoffensive means, it is evident there would be no necessity for this reflection, but it is not thus.

The relief which you procure the patient is not a gratuitous gift, it is done at an expense; he pays with his blood for the relief; tarry then, to know if he is in a state to support this expense. A question more legitimate, besides, inasmuch as it a matter of an expense for a luxury; for, however great may be the relief from the symptom, the duration of the malady is not modified an hour—hold that for certain.

There is here, a question for the exercise of individual choice, presented to you in a patient suffering with intense dyspnœa in pneumonia: you have in your hands a marvellous means for lessening this symptom which is so painful, but you know that this means has also for its constant result an enfeebling more or less marked. Each

patient then, imposes upon you the following problem: is it necessary to relieve the dyspnœa at the price of a certain debility? To this question, which ought never to be left without solution, you will respond in divers manners, but always after the same method.

It is a proportionata estimate—one of establishing between the forces of the patient, the duration and the effects of the malady on the one part, and the known results of the treatment on the other. You are, for example, in the second day of a pneumonia: already, if you have recourse to thermometrical exploration, you can foresee what will be the maximum intensity of the febrile movement, and therefore, the loss imposed upon the organism by reason of the fever; you know that your patient will have to support this increased consumption of its proper substance during seven or eight days yet, perhaps, for nothing indicates to you in advance, whether the pneumonia will enter into defervescence the sixth, the ninth or the tenth day; and, in this uncertainty, prudence wills, that upon your conclusion should be based the maximum delay. Provided with these charges, which are the fixed elements of the problem, the physician ought to examine whether the patient is in a state to support an artificial spoliation, added to the natural spoliation which results from the disease. This element, essentially a changeable one, is furnished by the age of the individual, his constitution, his habitual state of health, and the conditions under which he contracted his pneumonia. If all these considerations are favorable and concur in the same construction, make a bleeding, repeat it according to necessity: in this well defined situation you are certain of relieving the patient without compromising the future; in the opposite case, abstain, for you ought not, with the view of combatting a symptom, however painful it may be, take away from your

patient the resources which are necessary to attain the termination of his phlegmasia. It should be said that the intensity of the dyspnœa likewise ought to be taken into consideration in producing the medical question, which ought to precede the practical determination. It is sometimes the case, though happily rare, that this symptom is so very violent as to be of itself a source of immediate danger. It is necessary in such a case to ward off the most pressing evil, and, at the risk even of debilitating the patient, it is expedient to combat a phenomenon, the violence of which can kill before the malady can undergo resolution.

Such are, gentlemen, the foundations of this conclusion, the principles alone, of which, I can point out, but the infinitely variable shades of which escape didactic description; this is the domain of medical tact. You have nevertheless for this clinical determination a faithful guide, which will never fail you if you know how to interrogate it: this guide is the pulse. When it is amply full and strong, it gives you a lesson of absolute value, and the symptom is immediately interpreted when observed. With such a pulse there is no actual debility; there is sufficient force in the patient to resort to a spoliative treatment, if the other conditions demand it. But the situation is less clearly defined when, as in our woman, the pulse is characterized by its smallness; it will not be useless to stop a moment upon this point.

The ancients say that smallness of pulse is not always a contra-indication of blood-letting, because it is not always a sign of feebleness; one can in the ascenscional period and in the period of the heighth of acute maladies, pneumonia among others, observe a small pulse in robust and well-conditioned individuals, who possess more than the necessary force to bring their malady to a happy conclusion. There is then in the language of the schools, an

oppression of the forces, and not real debility: the proof is in the fact that, if we practice bleeding, the pulse rises and assumes volume and force. This is perfectly accurate, and, although I do not much like the expression, oppression of forces, which veils under a mystic figure an ignorance of the cause of the phenomena alluded to, I admit that the empirical assertion and practical counsel following, are founded upon a rigorous observation.

But on the other side, there are cases more numerous still, where the smallness of the pulse, indicating a real debility, becomes a positive contra-indication to blood-letting; the same symptomatic phenomenon can thus furnish two opposite indications, and it becomes extremely important to distinguish between these two orders of facts.

I will make you understand in a moment the means of making this distinction at the bed of the patient; but I first wish to give you the physiological reason for the seeming oppression of the forces—that is to say of this smallness of pulse—which, in a vigorous individual, disappears after an emission of blood.

The lesion of the pneumonia has for its constant effect we have seen, a greater or less difficulty in the cardio-pulmonic circulation. From ever so little, to however great this difficulty may be, it produces in the cavities of the right side of the heart a sanguineous stasis, which by and by reaches the viscera and the peripheral extremities of the venous system. The difficulty of depleting the vessels carrying dark blood, directly augments the obstacles which the arterial blood has to surmount to traverse the capillary net work; and, in these abnormal, mechanical conditions, the contractions of the heart are vainly made with energy—the blood-wave is feeble, the pulse is small. Take away blood and the stasis disappears, your artificial depletion for a time compensates for the obsta-

cle which exists at a point in the circulatory apparatus; the proper connection between the arterial and venous tree reëstablishes itself; the blood-wave is perhaps not any more voluminous, but the initial impulse which puts it in motion, transmits itself and is perceived with more force in the arterial vessels; the pulse becomes fuller and stronger, and, in a word, recovers itself. You see now, the reason of this singular phenomenon—this famous oppession of the powers—the whole mystery of which is in the mechanical modifications which the pulmonary lesion introduces into the circulatory apparatus.

As for the clinical distinction between these two opposite states, happily it is equally simple as it is important; laying aside other conditions peculiar to the case, the distinction is clearly furnished, without the possibility of error, by an exploration of the heart, and by the phenomena of the recurrent palmar circulation.

If, with a small pulse, you observe the heart's beatings are energetic and regular, if the impulse is strong, if in a word, there is a discordance at the expense of the heart, between the force of the central organ of the circulation and that of the peripheral arterial pulsations, be assured then, that the smallness of the pulse does not indicate a true feebleness; the debility is only apparent, and if reasons of importance demand of you the abstraction of blood be assured then, the qualities of the pulse are not in themselves a contra-indication. If the results of your comparative examination are different, does there exist a perfect concordance between the smallness of the pulse and the feebleness of the heart—then the debility is real; for this concordance signifies that the smallness of pulse is not an effect of the abnormal condition of the peripheral circulation, it signifies that the arterial feebleness is the direct consequence of that of the heart, and as this cannot take place from anything else than a failure of

the nervous system which provides even the contractility of the organ, we have here a sign positive of adynamia.

This mode of apprehension, can be corroborated by an examination of the palmar recurrent circulation, (recurrence palmaire). This sign, more delicate than the preceding, can be very useful to you, in certain cases where the heart's pulsations are, so to say, neither feeble nor strong, you hesitate as to the true signification of the pulse. Here is what this phenomenon consists in. Examine the radial artery of an individual in good health; then after having acquired a notion of the qualities of the pulse, compress the artery very strongly so as to obliterate its calibre; the beatings disappear, and you no longer perceive the shock of the blood-wave, which strike the compressing finger, without being able to pass on. Place then a finger of your other hand, beneath the point compressed, and you will perceive a pulsation in the inferior end of the artery: this pulsation is furnished by a recurrent wave, which passes through the palmar anastomosis. In a state of health, this retrograde pulsation appears so to say, the instant your compression has rendered the radial impermeable at the point, and furthermore, the recurrent stroke, has the same qualities of force and fullness of the normal stroke. It is not thus in disease. As the contractile force of the heart becomes enfeebled, the recurrent palmar pulsation, is retarded in its appearance, and is markedly less strong, than the direct normal circulation; in proportion as the cardiac impulse diminishes, the return stroke is lessened, until finally it can no longer be perceived, excepting at rare intervals, which is always a bad sign. Such is the phenomena of the palmar recurrence; faithful in the teaching indications which it furnishes, simple in the exploration necessary, this sign certainly does not merit the complete neglect into which it has fallen.

The different sources of the indications I am about to present to you, I have attentively explored in our patient, and my hesitation was not of long duration. By the side of an intense dyspnœa, a positive indication for bleeding, we found a constitution ruined by misery, and a complete dejection. This dejection besides was the expression of a real adynamia, for while the pulse was small and without resistance, the heart's strokes were feeble, an impulsion without vigor, and the palmar recurrence, scarcely marked, was perceived with difficulty. All spoliation was impossible: to take from this woman a fraction even, of her remaining resources, had been an error, the consequences of which might have been irreparable: we were not able, it was not necessary to expose our patient to such a peril, with the view alone of procuring a relief of some hours. I did not draw blood, I gave soup, and for all medicine, two grammes of extract of quinquinia and two hundred grammes of Bordeaux wine. You will now see how it resulted in getting her out of her condition.

But before relating the conclusion of this history, I must complete the exposition of the indications for phlebotomy in pneumonia. The dyspnœa and marked elevation of temperature generally present in it, are not the only circumstances which indicate the abstraction of blood: the therapeutic method presents two other indications concerning which there is a perfect agreement.

Around the inflamed zone, perfectly hepatized, there is generally produced a collateral hyperæmia which reveals itself by more or less fine subcrepitant râles surrounding in a circle the region of the souffle and crepitant râles. This hyperæmia is often accompanied by a serous transudation resulting in an œdamotous infiltration of a portion of the parenchyma. Now, if these secondary alterations occupy a certain extent, they become of themselves

a source of danger next; adding their effects to these of the pulmonic lesion, like it, they diminish the field of hæmatosis, and can bring about insufficiency of respiration. If the congestion or œdema occupies the two lungs it is evident that the peril is more pressing still. But whilst the inflammatory lesion is a fixed lesion, upon whose evolution we have no fixed power, these secondary hyperæmias, with or without œdema, are mobile phenomena, directly amenable to blood-letting. Under these conditions then, every precaution taken, and a careful examination of the general state of the patient being made, make a free bleeding, and repeat it at need: you will obey rational indications, and you will amend positively the difficulties superadded to the disease, originating in these secondary mechanical congestions.

A third indication for venesection, is furnished by phenomena so unusual, that it behooves us to know it well. This is somnolence, torpor with numbness and a pricking of the extremities, a turgescence of the jugulars, a bluish tint of the face and lips; symptoms which isolated or combined, indicate the slackening and stasis of the encephalic circulation. Like the preceding, these phenomena are of the mechanical order, and the abstraction of a certain quantity of blood, is the best means of dissipating them.

It is claimed that these is a fourth indication for this therapeutic means. If, it is said, you see the patient almost at the beginning, when only the pulmonary congestion exists, that is to say, the congestion which preceeds hepatization, you ought by a vigorous attack, by means of bleeding, dissipate this initial congestion, and thus arrest the ulterior development of the malady. Nothing is less certain, know this well. That a mechanical congestion can disappear under the influence of a sufficiently free blood-letting, this is not doubtful; yet this effect is

not obtained, excepting the hyperæmia, is perfectly simple, I will say without any modification of the perivascular elements; but an inflammatory congestion, is accompanied from the onset by important changes in all the extent and in all the elements of the territory which it occupies; and having succeeded even in diminishing the quantity of blood in this region, a thing not quite proven, yet there is nothing gained as to the development of the histological lesions contemporaneous with the hyperæmia. This inability, is especially striking in a case of pneumonic congestion. In all conscience this congestion can not be attacked, except when it is manifest. Now, by what does it reveal itself to us? By fine crepitant râles from the outset. But since there are crepitant râles, intravesicular fibrinous exudation has commenced its existence, the proper elements of the perivascular tissue are modified, and then draw blood as much as you wish, you cannot prevent the pulmonary vesicles from containing a coagulable liquid, you can not hinder this liquid from coagulating, therefore, you will not prevent hepatisation and its consequences. It is because there has not been sufficient account taken of this capital distinction between the simple congestion, resulting solely from a change in the calibre of the blood-vessels, and the inflammatory congestion which marches from the first instant along with material modifications of the tissue elements, that any one can admit the indication which I combat. Pathological anatomy and observation, give a refutation of this, their identity, assimilation, and the therapeutical consequences which it is wished to draw from it.

To recapitulate: the propriety of bleeding in pneumonia, is limited to three indications which we have previously established: 1°. intense dyspnœa and elevated temperature. 2°. mechanical troubles of the pulmonary

circulation, hyperæmia and œdema. 3°. the phenomena of cerebral congestion. These rational indications based, udon the general origin, production and the effects of the morbid phenomena, ought, under every circumstance to take the place of the vague and ill defined propositions, which for ages have enveloped a misty empiricism and if these indications are purely symptomatic, be not astonished, I have already told you that no other exist in frank pneumonia.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, January, 1870.

HYPODERMIC INJECTIONS OF CORROSIVE SUBLIMATE AS A TREAMENT OF SECONDARY SYPHILIS.—It is rare to open a Medical journal, now-a-days, without finding some remarks or observation on the treatment of this or that disease by the hypodermic injections of some medicament or other.

Does this method of employing a medicinal substance deserve our attention? I may answer at once, that I do not share the opinion of a very distinguished practitioner of Louisville, Ky., who, not many weeks ago, informed me that subcutaneous injections are merely fashionable and that they are doomed soon to be abandoned by the élite of the American profession. Such is not the judgment cast upon this method by the medical men on this side of the waters.

Dr. Rynd, of the Heath Hospital, Dublin, was, I believe, the first to attempt the cure of neuralgia by subcutaneous injections of morphia. (Dublin press, March 12, 1845). Nine years later, in 1835, Dr. Wood, while injecting a

nævus with an acid solution of perchloride of iron, thought that narcotics, might, in this manner, be brought more directly upon the affected nerve in neuralgia. He published his cases in the Edinburgh Med. and Surgical Jour., vol. lxxxii, 1855, apparently not aware of Rynd's previous experiments. The method is known here in France ever since Professor Bèhier introduced the same in 1859, as "Wood's method."

I do not wish to enter into the details of the physiology of the absorption of medicaments; but absorption certainly does not go on uniformly in case the medicine is administered by mouth. Time and quantity, to say nothing about the chemical changes which many substances undergo when in presence of the gastric and intestinal fluids, play too important a part, not to be considered. Some medicines may even leave the economy effectually without being absorbed and consequently the expected and wished-for result is not obtained.

With a medicinal substance, placed in immediate contact with the absorbing vessels, under the skin, into the cellular tissue, it is otherwise. Here, all is absorbed, rapidly and constantly absorbed. Of course I exclude escharotics, which destroy the tissues and which thereby render impossible the end proposed. It is herein that lies the great value of subcutaneous injections: rapidity, regularity and certainty of action. Herein lies the great value of the method; the physician does not administer blindly, but he knows what is absorbed and, therefore, can dose, and guide the quantity to be administered.

Injections of morphia and atropia are of very common use. I do not intend to speak of them; I merely wish to speak of one substance, applied to but one disease: the substance is corrosive sublimate, the disease syphilis.

Anything appertaining to syphilis, is sure to attract attention in Paris; consequently, when M. Liègeois, fellow professor of our faculty and surgeon to the Midi Hospital, made a report, some three or four months ago, at the Soc. Imp. de Chir., of his successes obtained in the treatment of syphilis by hypodermic injections of mercury, it produced some astonishment, if not doubt.

I had seen myself, G. Lewin, in Berlin, in 1866, make use of the same treatment, but noticed so many accidents that I had but little faith in this treatment. However, in order to convince myself of Liégeois' results, I have taken the pains to follow his service for a couple of

months, and I have come to the conclusion that even so irritable a substance as corrosive sublimate can be thus administered, not only without danger but producing a quicker cure than any other mode of mercurial treatment in syphilis. As said before, I was rather discouraged from what I had seen in Berlin, three years ago, because of the very severe pain which these injections caused to the patients, because of the frequent occurrence of abscesses and salivation, and the not infrequent gastro-intestinal troubles, such as vomiting, colics, diarrhœa, etc. Lewin, while attending the Medical Congress, of Paris, in 1867, explained his method and gave it as his opinion that this manner of employing mercury in syphilis is called to give better results than any other form of treatment, not excepting the frictions, so much used in Germany, and of which the other is a near relative.

The idea of treating syphilis by injections of mercury is not altogether new. In 1864, Scarenzio, of the Pavia University, treated eight patients in this manner. He used calomel in five gr. doses suspended in fifteen or twenty grs. of glycerine for each injection. Seven out of the eight patients were cured. But the dark side of this apparently brilliant picture, was the abscesses which came up in each and every case. Nevertheless, S. found followers in Italy as well as elsewhere. Doctor Oscar Max Von Mons, of Pacheco, gave an account to the Medical Society of Bruxelles, of twenty-two cases treated by Scarenzio's method. All his patients were cured by an average of only three injections. The quantity of calomel used was from four to five grs., and the injections were practiced at intervals of from eight to fourteen days. Salivation occurred in one, but abscesses in all cases; these had to be opened about the eighth day. The parts injected were the posterior aspects of the upper arm.

Ch. Hunter and Hebra were the first, I believe, to choose corrosive sublimate instead of calomel, and here begins the first step of improvement; for we must own, whatever may be the virtue of calomel injections, the formation of abscesses are little inviting. The credit of a serious and calm study of the corrosive sublimate injections, as a treatment in syphilis, is especially due to Lewin, of Berlin. He has lately published a full and very minute account of five hundred cases, treated (Annalen der Berlincr Charité, xiv, p. 121, 1868). L. injected from

$\frac{1}{8}$ to $\frac{1}{4}$ gr. daily in a 15 gr. solution. This causes pain in all cases and leaves an induration of the teguments injected. Abscesses occurred in two out of every one hundred patients treated. If the dose is increased up to $\frac{1}{2}$ and 1 gr., very troublesome symptoms were observed: gastralgia, lassitude, disturbed sleep, vomiting, severe colic, tenesmus, bloody stools, syncope and coma. The pulse, at first accelerated, falls to 60 and 40 beats in the minute. Opium, quinine, wine, ether, etc., were generally employed as counteragents. Sixteen injections (one daily) were required for a cure, e. g., in sixteen days; 31 per 100 of the patients treated relapsed. Stomatitis occurred in 195 out of the 500 cases—37 per 100.

In comparison with the above results, which I, *en passant*, should call very unsatisfactory, it may be well to state that Lewin treated 1420 patients with Van Swieten's solution, the protoiodide or other mercurial preparations, and out of that number 65 per 100 relapsed.

Whatever statistics Lewin gives us on syphilis may be looked upon with the greatest confidence. His cases are thoroughly controlled, better than in Paris or any of the other large centres of Europe. No patient can leave his hospital before the physicians signs the card "cured," and as the sick, upon whom these statistics are based, are all prostitutes, and consequently looked after by the examining physician and the police, every relapse has to return to the wards.

Another very important fact—already announced by Sigmund, Michaelis and others—developed by Lewin's researches, is the one which proves that persons, who, during the mercurial treatment have become salivated, are more liable to relapses than if this had not been the case. The percentage in detriment of such relapses is more than 7 in the 100. This should be borne in mind by those of the profession who still follow Boerhaave's maxim, and who contend that salivation, or "slightly touching the gums," as they gently term it, is of no inconvenience in the treatment of syphilis; for aside of the unpleasant, and sometimes dangerous practice which the patient is unnecessarily subjected to, he is also made more liable to a relapse of the disease.

Lewin's method, though not very brilliant in results, has found numerous imitators in Germany and France. Quite a literature has developed itself lately, and especially in Germany. It is much employed in Vienna,

and my friend, P. Booker Reed, of Louisville, who, like myself, followed, M. Liegeois in many of his morning rounds, tells me that Prof. Sigmund, although married—so to say—to his usual *Einreibungen*, looks upon this method very favorably. Of 50 cases treated under Sigmund by Dr. Grünfeld, (Wiener medizin. Presse 1868 and 69, No. 1), we notice the following conclusions: "The subcutaneous method presents over all others the advantage of precision in the dose employed. No method so rapid, so sure, and none prevents relapses better."

These favorable results, so looked upon in Germany at least, do not compare with those obtained by M. Liegeois as I have observed them. The whole secret of the success lies in the quantity of sublimate injected. The disagreeable symptoms observed by the German surgeons can be avoided. No abscess, no salivation, no gastralgia or diarrhœa. The only disadvantage of the method, and one which will always remain such, is the pain. The fact cannot be disguised, for even the small dose here employed causes pain. Some patients, it is true, really have assured me that they scarcely suffer at all, or at least, but for a few minutes; but I have seen others, on the other hand, who complained of so much pain that they left the hospital, determined to be treated less rudely.

The solution now employed by M. Liegeois is the following: Corrosive sublimate, 20 centigrammes; chlorhydrate of morphine, 10 centigrammes; distilled water, 100 grammes. (No alcohol).

Of this, 1 gramme—20 drops, the contents of an ordinary Pravay syringe, containing 2 milligrammes of sublimate—is injected in the morning and at night, or else both at one time, but at two different points. The parts of the body best adapted for the injections, are the posterior and lateral portions of the trunk, and the lateral aspects of the upper arms. Regions rich in lymphatics should be avoided. The point of the syringe must be well introduced, far under the skin, into the cellular tissue. I have never seen any local inflammatory reäction to take place from such practice. The point of puncture is covered with a drop of ricinated collodion. Formerly, when M. Liegeois employed larger doses, or if the injection was left to be done by inexperienced hands (into the derma), he too has observed the formation of abscesses in a few instances.

The cases thus treated at the Midi since January, 1868, now amount to upwards of 400. Only the worst cases have been chosen; the lighter forms of secondary syphilis are treated by the old system. The patients subjected to the hypodermic injections undergo no other treatment whatever; no local applications, no baths; and yet, it is remarkable to see them side by side with others, who take the protoiodide or other mercurial preparations by mouth, cured of their secondary symptoms much quicker. M. Leigeois' relapses are something like 8 or 9 per 100; but this cannot be taken as strictly exact, because the patients have not been observed long enough after the disparition of their secondary accidents, and there are others, doubtless, who do not report themselves to the same hospital.

The average amounts of injections required is from 65 to 70, say 35 days, (requiring about $2\frac{1}{2}$ grains of sublimate for a cure). Strange to say, patients who have undergone part of a mercurial treatment before being subjected to injections, present a much greater tendency to relapse (37 per 100). The younger the patient the longer the treatment required, but the more effectual the cure. This method is scarcely of any value against tertiary accidents; a fact easily explained, I think, if we remember that mercury possesses a special action upon the epithelial elements of the skin and the mucous membrane, and but little over syphilitic growths, made up of neoplasma. Nevertheless, inspite of these, my own, observations at the Midi Hospital, Dr. Aimé Martin, our distinguished syphilograph, has lately published a case, (Gazette des Hôpitaux, Sept. 25, 1869), where, with 25 injections, made in the immediate neighborhood of the tumor, he has obtained the complete disparition of a syphilitic periexostosis of the clavicle of three years' standing.

Now, if we sum up the advantage of this method, leaving aside all enthusiasm which so naturally accompanies everything new, and which, unfortunately, often leads the inaugurator too far in his conclusions, we find that injections of corrosive sublimate undoubtedly cause the secondary symptoms (roseola, condyloma, etc., etc.) to disappear much quicker than any other mode of treatment. The absorption is rapid and sure, and here I must add, that mercury thus administered offers us a most powerful arm against the alarming secondary accidents, such as œdema of the glottis or iritis. I have

observed two cases of the former and a great many of the latter complication—one case in my own practice—very rapidly checked. In my own patient, seeing the violence of the inflammation, and fearing plastic exudation, I immediately began with four injections the first day. This, and an alternating instillation of atropine and ésérine, to prevent synechia from taking place, affected a cure in little more than 48 hours. The only objection to this method, as already observed, is the pain of the injection, and I should therefore only recommend its use in cases where frictions cannot be practiced on account of ulcerations of the skin, etc., or where mercurial preparations cannot be borne by the stomach or the intestines; and such cases, every one must own, are not infrequent. There are many patients who cannot take bichloride of mercury, because of the severe gastric symptoms it causes, especially if administered upon an empty stomach. If the bichloride finds no albuminous food, we must expect the mucous membrane to pay the expense. There are an equally good number of patients who, from the protoiodide, which acts particularly upon the digestive apparatus farther down, are troubled with diarrhœa, etc. In such cases only, therefore, would I resort to hypodermic injections. It is an excellent method to use in cases where patients, willing to bear the sting, are anxious to see their secondary symptoms rapidly disappear.

Dr. Bricheteau, instead of the bichloride, has adopted the biiodide of mercury and of sodium, which, he pretends, causes no pain. If this should prove true, it will give additional value to this method, already much praised by our best surgeons. R. Good, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Art. I.—Smithsonian Report for the Year 1868.

This valuable work evinces an amount of research that is beyond measure creditable. The papers contributed are more than usually valuable. The report of the Secretary is able and interesting; indeed the scientific men of this country owe a debt of gratitude to Prof.

Joseph Henry, which can never be repaid; to him more than to any one else, is the Smithsonian Institute indebted for the eminent succes. which has attended its operations.

The additions to the collections have been very large and interesting. The list of literary and scientific exchanges embraces the names of the best institutions, the best periodicals, and the most distinguished men of this country and elsewhere. The corps of observers at work is extensive and efficient; this list is of itself a curiosity, and an eloquent testimony to the ability and fidelity of the distinguished Secretary, Prof. Henry. The meteorological material collected has been large and valuable. The report of the executive committee, shows that the financial condition of the institution is excellent. The proceedings of the Board of Regents evinces the fact, that these gentlemen are workers and that their zeal is not only directed to a development of the interests of the Smithsonian Institute, but also to the material welfare and health of the city, in which it is located.

Among the valuable papers in this volume are the following: A Memoir of Cuvier, translated by C. A. Alexander; a Memoir of Oersted, translated, like the first memoir, by the same writer; a full and interesting notice of Frederic Schoenbein, the discoverer of ozone; Memoir of Encke; Memoir of Eaton Hodgkinson, by Robert Rawson; Recent Progress in relation to the theory of heat, by A. Cazin; Principles of the mechanical theory of Heat, by John Müller; Continued vibratory movement of all matter ponderable and imponderable, by L. Magrini, of Florence; Radiation, by John Tyndall; Synthetic experiments in relation to meteorites with a full and valuable catalogue of meteorites; the Electrical Resonance of Mountains, by H. DeSaussure; Experiments on aneroid barometers, by B. Stewart; Royal Society of Victoria, Address of the President; Society of Physics and Natural History of Geneva; Transactions of the Anthropological Society of Paris, from 1805 to 1867, by Paul Broca; Drilling in stone without metal, by Charles Rau; Account of a deposit of flint implements in Illinois, by the same writer; the Blackmore Museum, Salisbury, England; Programme of the Holland Society of Sciences; An account of the processes employed in the assay of gold aud silver coins at the mint of the United States, by Jas. Pollock, Director, with

a most valuable table of the coins of different countries, giving in full, the name of each coin, its denomination, weight, fineness and value. The work is closed with a complete list of the publications of the Smithsonian Institute, from 1846 to July, 1869. It is of course impossible to review a work of this description, which is made up of a large number of scientific papers, each one of which is of sufficient value to entitle it to an extended and elaborate notice. It is believed that the space given to the notice (if it can induce the readers of the Journal to procure the report) will prove to be of practical value. This number of the Smithsonian report cannot be too warmly commended. E. S. G.

I.—Contributions to Practical Laryngoscopy. By A. Ruppaner, M.D., of New York.

II.—Plastic Operations. A paper read before the New York Academy of Medicine. By Frank Hamilton, M.D., of New York.

III.—Specimen Pages of the Medical Adviser; A Plain Treatise on the Theory and Practice of Medicine for Family Use. By R. Thompson, M.D., Cincinnati.

IV.—Report of the Committee on Intemperance as a Disease. Philadelphia, Pa.

V.—The Wire Loop. By A. M. Pollock, M.D., Pittsburg, Pa.

VI.—The Interdental Splint. By E. A. Clark, M.D., St. Louis, Mo.

VII.—The Physical and Medical Topography of the City of Wheeling, Va. By J. A. Reeves, M.D., Health Officer, 1870.

VII.—The Nashville Journal, for Feb'y. By W. K. Bowling, M.D.

I. This pamphlet contains a report of four cases, with excellent drawings, and a detailed account of the method and principles of operation. In lamenting the want of a

sure and safe local anæsthetic in operations upon the larynx, Dr. Ruppaner, after having used bromide of potassium by direct application to the fauces and by internal administration,and having tried a solution of morphine in chloroform directly applied, finds that cold water pulverized, or a strong solution of alum in water pulverized, produces, when locally applied, the most complete local anæsthesia. This fact is worthy of general publication. Dr. Ruppaner's cases are well prepared and those interested in this subject will do well to obtain a copy of his pamphlet.

II. This is a practical and instructive paper. Dr. Hamilton gives illustrative cases of operating by the following methods; the Italian method, or transplantation from remote parts; the French method, or operation by sliding; the Kooma or Indian method by torsion and from the forehead. There are also illustrative cases of rhinoplasty by other methods. The details of the operations, with the results, are given, and the pamphlet forms a most useful contribution to the literature of plastic operations.

III. This pamphlet is sent, with the request, that it be noticed, and that, if noticed, a copy of the Adviser will be mailed (to the editor of this Journal) as soon as it is published. Such unblushing impudence deserves public record and exposure. This request is similar to others received, and all future applications of this description, shall entail upon the writer of it the penalty of public castigation. What can be the character and tendency of the modern press, when it not only tamely receives such base propositions, but frequently responds docilely and obediently to the request accompanying them. It is the fault of the press, that publishers can have the audacity to make such proposals. Editors of secular papers and some medical journalists (poor Dr. Bowling, of Nashville, among the number) have been foolish enough to give flaming testimonials in behalf of this work, which they are to see, when it is published. The National Publishing House, of Cincinnati, is welcome to this notice, and need not send this work, which, judging from the sample pages received, will be a ludicrous reflection upon the credulity or common sense of those who may foolishly purchase it. Its claims to being a scientific work are not quite as good, as those of Mother Goose to be regarded as classic poetry.

IV. This is an excellent and well digested Report. In considering the intoxicating agents consumed in various countries, this useful summary is given: Whisky and brandy are the intoxicants of America, Russia, Scotland, and Ireland; ale and beer of England, Germany, Japan and Egypt; wine of France and Italy; bouza of Nubia; pulque of Mexico; tuka of Kamschatka; Betil of Polynesia; arrack of Africa and Hindoostan; opium and shamshu of China and Turkey; bangue and hashish of Arabian and Grecian Archipelagos; coca leaves of Peru; palm leaves of the palm countries; hyoscyamus of Syria; rue of the Crimean valley, and ether and chloroform among the cultivated and refined of our own country." This last clause is problematical. The following language from this committee of experts is interesting and valuable: "from thirty to fifty per cent. of patients, in Institutions for the intemperate, who were a burden to their families, return again to society, capable of successful occupation in the affairs of life. Ninety per cent. of opium cases are curable under treatment." Joseph Parrish, Edward Wallace, W. B. Atkinson, James King, and Jacob Price are the names attached to this interesting report.

V. This pamphlet is intended to show the advantages of the wire loop over the ligature. It is claimed that, when used, union by first intention is more frequent and secondary hæmorrhage less frequent; that it may be applied with equal facility by those using the ligature. The pamphlet is illustrated by twenty-four cases and is well worthy of the attention of the profession.

VI. Since the war many inter-dental splints have been devised. The one described in this pamphlet is ingenious and simple. It is invented by a gentleman well known for his proficieney and ingenuity as a surgeon, and for his accomplishments, in general, as well as in medical literature, Dr. E. A. Clark, of St. Louis, Mo.

VII. This is a most excellent publication. It is creditable to Dr. Reeves as a physician; it is creditable to the city which has placed in a position of immeasurable importance an officer so competent to efficiently discharge his difficult duties, and so able to reflect credit upon medical science and medical men. How rapidly would the profession of medicine be duly appreciated by the general public, if such reports were not exceptionably but as a rule disseminated? How neccssary is it for physicans

in guarding the honor and welfare of their profession, as well as in preserving the health, happiness, and prosperity of communities, to give their aggregate voice in the election of medical officers charged with the duty of preserving the health of states, cities, and towns. How rigidly should those be tried before the bar of medical and secular opinion, who, from willful ignorance or disgraceful partisanship, elect those unfitted or incompetent to discharge the difficult and responsible duties devolving upon them? It is sufficiently deplorable when the unprofessional are guilty of such malfeasance, but when physicians (who are educated to appreciate the necessity of proficiency in a medical officer) so far forget what is due to the honor of their profession and to the safety of communities as to elect, through despicable partisan influences, medical officers unqualified for their positions, physicians thus untrue to their profession should by the members of that profession, be visited with the most scathing denunciation. Dr. Reeves' pamphlet is devoted to an examination of the following subjects: Importance of sanitary science; topography; streets, alleys, and drainage; sewerage; private dwellings; geological stratifications; ethnography; manufactories; diets, drinks, and habits; tobacco, statistics; hospitals; prisons; schools and colleges; libraries and places of amusement; births, marriages, and deaths; mortality tables, with the causes of deaths; physicians; abortion; quackery; vaccination; toxicology; life insurance; epidemics; sanitary regulations. Such a report must accomplish great good, and cannot fail to so elevate the importance and appreciate the value of municipal hygiene, as to render its representatives secure of professional and general respect. Those who publish such reports give honor and dignity to their profession; they give security, health and prosperity to cities; and they save physicians the mortification of seeing medical hygiene the constant subject of mirth, contempt and ridicule in the secular papers of their cities.

VIII. As is well known, this journal was expunged from the exchange list, three years ago. Some one, has however, sent a copy of it for February for review, and the melancholy task must be performed. In 1866 when Professors Eve and Jones gave dignity and tone to this work, it was a monthly of fair size and with some respectability, but when the course of its chief editor and

proprietor, W. K. Bowling, M. D., became disreputatable, these gentlemen abandoned the work to its fate, and it is now like Shakspeare's apothecary, lean, starved and soiled; a poor, discolored, worthless little pamphlet of something like forty pages. This is only the logical and anticipated result of the course which has been adopted by the unfortunate editor of this unfortunate little magazine. During the past six months, it has been devoted to the honorable object, of blackening and defaming the character of the writer of this review. The editor and his chosen friend, Dr. T. S. Bell, of Louisville, have resorted to a systematic use of misrepresentations, villification, slander, and billingsgate to effect their honorable object, and the only result is, that they have been excoriated by the medical press of America; that they stand to-day, where they had hoped to place the subject of their infamous and unscrupulous pasquinades. If the writer of this review could stoop to the ignoble desire for revenge, it is in his grasp, but he does not wish it. It is sufficient for him to show, that he has been basely attacked, and that those who sought to destroy him have ignominiously failed; that the chosen instrument of their attack, the Nashville Medical Journal lies before him to-day, crushed, a pitiable and lamentable wreck. E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

Owing to the immense accumulation of valuable papers received, and to their occupying, in turn, much space in this Journal, the increased labor of analysing the exchanges, and publishing such analyses in the place of extracts (not abstracts, as Dr. Dawson terms them), from the journals, devolves upon the editor. This course taxes additionally the editorial energies, but as it will give very much more material in a smaller space, adding thus to the value of this Journal, such additional labor is assumed.——Sir Henry Thompson, in a recent lecture, gave his opinion in regard to the endoscope. He considers it almost valueless. In nineteen cases out of twenty, it is unnecessary, and in the twentieth, difficult of management and a source of pain to the patient. He does not

utterly repudiate it, but his testimony will give it a quietus. He says that it is essentially the same instrument as that used by Mr. Avery of London, twenty-five years ago.——According to Dr. Bing, who has devoted much time and labor to the subject, the use of quinia, prevents the escape of the white blood corpuscles from the blood vessels in inflammation. If it checks the emigration process, it of course prevents suppuration. The claim is very problematical, but one worthy of attention.——Gamgee's celebrated process for preventing decomposition in meat is to expose the fresh carcase, cooled to 50°F., to the fumes of carbonic oxide and nitrogen and afterwards to place it in a chamber filled with the fumes of sulphurous acid, for ten to twenty days, according to the mass to be preserved. This course will keep human bodies also in a state of preservation, and, as the process is easy and inexpensive, the demonstrators of medical colleges will find it worthy of serious attention. ——Villemin finds that tubercle is propagated; by inoculating the healthy animal with the liquid matter of the expectoration; with the dried expectorate if the desiccating process be rapid; putrefaction arises if the desiccation be slow; the inhalation of powdered desiccated sputa or the sprinkling of this powder on blistered surfaces: by the introduction of tuberculous matter into the stomach; atmosphereic air is not a medium for the communication of the poison. In hospitals for consumptives, the attendants are not poisoned. These are the latest facts.——Mr. Tennent, of Glasgow, recommends feeding by a gum-elastic catheter passed through the nose into the stomach, when it is impracticable to introduce food otherwise.——The most reliable and recent facts in regard to vaccination, are as follows: 1. The degeneration of the Jennerian vaccine has not been proved. 2. There does not exist a single authentic case of vaccinal syphilis, properly so called. 3. The rare—very rare cases of syphilis inoculated by vaccination are explained by conditions which completely exonerate the vaccine from all influence therein. 4. A great number of cases of pretended syphilis occurring after vaccination are exceedingly doubtful. 5. Animal vaccination, as a source of vaccination, may be encouraged, although it does not possess any real and sensible advantage over vaccination from arm to arm.——Mader, of Vienna, recommends the use of the hypodermic syringe for pur-

poses of exploration. The action of the syringe is reversed; tumors, abscesses, effusion, morbid deposits, may thus be examined. Dr. J. M. Holloway, of Louisville, used this device recently and in a manner original with himself.——Test of death: examine the hand by transmitted light; the living hand appears of a rosy hue; transparent; the capillaries in full play; the dead hand appears like marble.——Dr. John Brinton recommends the immediate sewing up of a ruptured perineum. His reasons and results are excellent.——German pharmacists destroy the sale of patent medicines by publishing analysis of them.—*Balt. Med. Jour.*——Drs. Rockwell and Beard, of New York, have cured 24 of 50 cases of neuralgia, by electrization; the Faradaic current, being used. The instruments recommended by them are those made by Jerome Kidder, of New York.——If the statements of writers in the exchanges are to be believed, bromide of potassium will relieve all the troubles of dentition. It would be well for all to test this substance fully in the disorders of dentition and to report the facts. As the nervous system is (unquestionably) seriously debilitated by the bromide, those trying it with children should use due care.——As the table of "doses for hypodermic use" unfortunately published by the American Practitioner contains several dangerous errors (only partially as yet corrected) and as this table has been copied by other journals, the editors of these works can not too soon warn their readers of the errors and see that they are fully corrected. Patients with 1-15th of a grain of aconitine or atropia injected hypodermically, would never require a physician again. The Practitioner is not directly responsible for the errors in the table, as this was published as an extract, but the errors are very dangerous and can not be too prominently corrected.——Dr. C. A. Robertson, ophthalmic and aural surgeon, of Albany, N. Y., charges Dr. J. H. Armsby, of that city, with having so maltreated the distinguished Prof. Alden March, of Albany, that Dr. M. died, when he could have been relieved, by the use of the catheter. Dr. Robertson has been expelled from the Hospital staff and from the Albany Medical College. Unless his criticisms are proved to be unjust, his expulsion will be regarded generally as an outrage.——Dr. H. Knapp reported, at a late meeting of the New York Medical Journal Association, that he had received a letter from Prof. G. Simon, of Heidel-

berg, in which he states that he had recently successfully extirpated a kidney of a woman, one of whose ureters had been destroyed.

MEDICAL NEWS.

"Nulla Dies, Siue Linea."

Sir William Fergusson has recently successfuly operated for stone upon Sir John Fife, the celebrated lithotomist.——Pean, of Paris, has operated for ovariotomy ten times, with seven recoveries.——Dr. Samuel Jackson, of Philadelphia, is no more. He died at the age of 81.——The Dialectic Society, of Edinburgh, admits as members all students, male or female, who have matriculated——Mrs. Budd, the wife of the celebrated Dr. Budd, has recently died. She had nine sons, seven of whom were physicians and two lawyers.——There have been issued 160,000 volumes of Dr. Dunglison's works.——Prof. Geoghegan, the celebrated Irish medical jurist, is dead.——Akazgia is the name of the new alkaloid. It is from the akazgia plant, a species of strychnos. It is used on the coast of Africa as an ordeal. Those suspected of crime are made to drink an infusion of it; if the prisonor falls he is beaten to death; if he does not fall he is regarded as innocent. The jest is that there are several species of akazgia, some poisonous and some not. Frequently the guilty are tried with the harmless plant and of course escape. Are American juries more reliable than the akazgia test.?——The Kentucky School of Medicine closed on February 24th. Professor Holloway delivered an amusing and frequently applauded valedictory. J. H. Warren, of Danville, Ky., received the first honor and U. S. Carter the anatomical prize.——The Louisville Medical College closed on the 28th. S. P. Breckinridge delivered the Faculty valedictory and Dr. J. W. Williams the Class valedictory. The honors were bestowed as follows: J. W. Williams, Ky., first honor; W. Harrell, So. Ca., the thesis prize: C. Sauter, Ky., the anatomical prize: J. T. Jenkins, Ky., Dr. Gaillard's prize; J. E. Harris, Ky., and W. Heath, So. Ca., divided Dr. Octerlony's prize.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Northern and Southern Medical Journals.

Parkersburg, West Va., Feb. 15th, 1870.

Dear Sir:—I like your journal and intend to keep it up, etc., etc., etc., but I cannot endorse all you say in favor of Southern journals. If they wish and expect support, they must deserve it. They must stand or fall upon their merits. * *

This extract is made from a letter received from an old friend. It is sent in criticism of the editorial (on Southern journals) published in the February issue. The reply to the exceptions made is simple. Southern physicians have acted in regard to the seven Southern journals which have failed since the war, as though they expected these works, like Jonah's gourd, to spring up to perfection in a night; and, though several did attain a wonderful growth in a very brief period, their friends looked on and allowed them to perish in an almost equally short space of time. Dr. ———, of Parkersburg, states that if these journals "expected support," they should have deserved it. Now it is well known that several of these journals were conducted with the most marked ability; that they did deserve an ample support, but that the physicians of the South did not extend this to them. No one can object to the position assumed by Dr. ———, that Southern Journals "must stand or fall upon their own merits;" but the facts are that journals of the most conspicuous merit were allowed to perish disastrously, while the support which would have given them permanent life and vigor was withdrawn and sent elsewhere. Again—physicians at the North and West have sustained for a period of years, have fully established journals infinitely inferior to those which

Southern physicians have allowed, in their own section, to quickly and irredeemably perish.

These are facts which Southern physicians should well know; which they should reflect upon and appreciate. They are responsible for this failure of a medical literature, which ought to have been a source of pride and satisfaction to them, but which they neglected and abandoned, while building up other and distant journals; few of these superior to those abandoned, and many of them far inferior. This course has been adopted and is now being adopted by very many who are wont on public occasions, to declaim their present and past devotion to the Southern [illegible] and the Southern States, but who, in practice, very often show that their fervid declamations are "mere sound and fury, signifying nothing." There are many, very many physicians at the South who have for the last five years sustained promptly and freely journals published at a distance, while they have allowed periodicals fully equal to those they supported to perish unaided and even unrecognized. These are facts well known to many. Are they creditable? It is again the history of the Southern States, that her sons have allowed their own literature, the intended and worthy repository of their own genius and labors, to go down unaided, while they have sent the representatives of their purse and pen far from home, to give the support which their home friends deserved, but which they asked for in vain!! The literature supported was worthy of support, but was a literature equally worthy to be repudiated and rejected?

No one of sound sense and good judgment could advocate a proscription of all else than home literature; no one with a proper appreciation of the past and with worthy hopes for the future history of this country, could advocate sectionalism in literature, more especially when there is so much literature deserving of a munifi-

cent support from all portions of this country; but surely it is proper to call the attention of the medical public of America to the fact, that Southern physicians have allowed seven of their own journals (several of them excellent) to perish in five years, while they have given their support to journals, many of them by no means superior to the journals forsaken. It is a fact equally worthy of mention, that physicians at the North have amply sustained journals near them, though several of these journals were unquestionably inferior to those forsaken and abandoned at the South.

Now no one who is practically familiar with the liberality, with the generosity, even with the nobility of the Southern physicians, supposes that this unfortunate fate of so many of their journals has been the result of deliberate neglect or injury, yet the facts detailed are nevertheless unquestionable facts. It is a part of the genius of the Southern people, that they are as prompt and generous in repairing an injury, as they may have been apparently indifferent in suffering it to occur; and the writer feels and believes that the publication of these facts will be appreciated; that they will lead to good results; that they will bring practical benefit to the seven Southern journals which now appeal to the whole country for development and support.

This journal has for four years received from the physicians not only of the Southern, but of the Northern, Central, Middle, Western and Northwestern States, a liberal support. Other journals published in the Southern States have doubtless received a similar encouragement. This is as it should be. A distinguishod statesman, (a curiosity in these times), a Kentuckian, has well said, that "railroads should now run as fully on lines of longitude as they have done in times past on lines of lattitude." The past must be the past. Lines of communi-

cation must be multiplied. Community of thought, community of commerce, community of interest, community in science, are the only *bonds* which should now be known to the American people. These are the only bonds which are an honor to those who forge or wear them. While physicians, in common with all right thinking men, should play a prominent part in this good work, Southern physicians should remember, that their journals are expected to be worthy links in such bonds. They should remember that many of these links have failed in the workmen's hands, from want of aid to weld and perfect them. They should remember that their brethren throughout the whole country stand ready and willing to join fully with them in such good work; but that these brethren have waited to aid them, until it was evident that they were willing and determined to aid themselves.

Editorial Brevities.—The Baltimore Medical Journal (for February), published by Drs. E. S. Howard and T. L. Lattimer, has been received. The work is much improved and is fully entitled to an abundant support.—— The Messrs. Appleton, the publishers of that excellent periodical, "The New York Medical Journal," are advertising it extensively, "as the largest and best monthly journal in America." As to it being the best, there may be a difference of opinion; it is certainly a superior work, and Dr. Dunster, its editor, has made it a credit to the great city in which it is published. It is not unnatural that unprofessional owners should regard it as the "best," but it is unnatural that they should say so. It certainly is not the largest medical monthly in America. The title page of the Richmond and Louisville Medical Journal bears these words: "The Largest Medical Monthly in America." Is this statement true, or are

the Appletons correct in their assertion? The New York Medical Journal consists of two volumes in the past twelve months; these numbered in pages as follows, one volume, 656 pages, while the corresponding volume of the R. & L. Journal contained 674; another volume contained 688 pages, while the R. & L. Journal contained 712. How is the comparison recently: the three last numbers of the New York Journal contain 336 pages, while the three last numbers of the R. & L. Journal contain each 384. When the statement on the title page of this work is not correct and just, it will be withdrawn. ——It seems that Dr. Schœppe, about whom so much sympathy has been expended, is an old criminal; a denial has been made in regard to this, but the denial, so far, comes only from himself. However, this may be, he has been unfairly convicted, and is entitled to the most humane and just consideration.——All physicians who respect themselves should send on petitions to Congress, asking that a fair and at least decent consideration be extended to the medical officers of the navy. The *soi disant* merchant princes of New York, have prepared a counter-petition, to the effect that giving to medical officers the rank which education, length of service and justice entitle them, would be subversive of the discipline of the navy, and so reäct unfavorably upon the discipline of the mercantile marine. It seems that these persons, because they are admitted connoiseurs in the odor of bacon, experts in the taste of sugar and molasses, and adepts in the price current of the gross materials in which they traffic, suppose that they must be authority also in regard to the rights, privileges and honors due to American physicians. The insolence and pretension of the trade circles of America are as ridiculous as they are stupendous. In Europe these people are taught wholesome lessons. They are made to understand that, while it is

respectable to deal in sugar, etc., this does not make a sugar dealer an adept either in science or law. It is to be hoped that the physicians of America will request the Congress of the country to extend to the medical officers of the navy those privileges which civilized nations regard as their rights.——The Gynæcological Journal of Boston, Mass., very properly stigmatizes the sentiments of Mrs. Dall in regard to female physicians. Mrs. Dall would have the public believe, that the presence of the physician in the sick chamber of an invalid woman is injurious to her morally and physically; as it gives rise to erotic disturbances of painful character. If the presence of the male before a sick woman induces such results, what must it be, according to the testimony of Mrs. Dall, when the woman is well; in the parlor, on the streets, in society? This gross libel is infamous, and it cannot fail to make despicable the authoress of it.——The Gynæcological Society of Boston has recently debated as to the proper treatment of a case of intense nymphomania reported to it. Coitus had been prescribed and tried ineffectually; the unfortunate woman being unmarried. One of the members of the Boston society (Dr. Sullivan) advocated a return to the same treatment. It will scarcely be credited, that the treatment reported in connection with this case and the recommendation for a continuation of such a course, escaped the scathing denunciation of the society and journal indicated.——The Gynæcological Journal still claims priority of organization for the gynæcological society of Boston. It urges that the Louisville society is an obstetrical society, while the Boston society is a gyæcological body. Now nothing could be more absurd than the technology so fashionable, gynæcology, gynæcologist, etc. It does not mean what it is supposed and claimed to mean; it signifies the science of woman, and not as is understood, the science

treating of the diseases, malformations, and disturbances of her generative organs. It would be equally absurd to term the surgeons who treat diseases of the male generative organs anthropologists, as to term the medical man who confines his attention to to the generative organs of woman a gynæcologist. Van Buren, of New York, and others similarly interested might, if they desired to create a parallel sensation, term themselves anthropologists: as an offset to these specialists, dubbed by modern technology, gynæcologists. The facts are that "obstetricy, is (as defined by Meigs) the science of woman's nature, diseases and accidents, and is a copious and comprehensive science; while midwifery is the mere art of assisting women in labor." The sooner we return to good, sensible technology and abandon a nonsensical term, the better. Granting, however, Dr. Storer's distinction, it may be said, that his society has frequently held midwifery discussions, while for nearly a year, and then only by a special vote, the Louisville Society did not depart from its origina object of debating the so-calle gynæcological subjects of the present day. If we are still to have gynæcologists by all means let us have a parallel sensation, and dubb the gentlemen who handle the steel sounds and male catheter, etc., anthropologists. ——The new Medical Society in Washington, D.C., admits male and female physicians, white and black. This Society will send delegates to the American Medical Association. The question of admitting negroes, as members of the Association, will be then raised. It is a question that must be met and will give much trouble. The subject will be presented in this journal, and will be examined upon its merits. Will physicians, everywhere, be kind enough to send their views in full, to the editor of this journal?——Some excellent papers on the hydrate chloral are on file for publication in this journal. The

latest reliable information will always be given.——The dry-earth closet system is slowly working itself into the notice and confidence of the professional and general public.——A well-known nostrum is signed by Mr Peterson, Presbyterian clergyman, by Mr. Rogers, Episcopal clergyman, and Mr. Cole, Catholic priest. Were the strictures upon the clergy in the last Journal unjust? ——Many cases of tympanites are reported as relieved by abdominal punctures.——Calvert & Co., report that two-thirds of a grain of carbolic acid in twenty minims of water administered hypodermically arrest paroxysms of intermittent fever.——The best book catalogue in the United States will be found in the advertising pages of of the February number of this journal.

BOOKS AND JOURNALS RECEIVED.

Proceedings of Texas State Medical Association. Houston, 1869.

Prize Essay. Acupressure: By J. C. Hutchison, M.D., Brooklyn, N. Y. Compliments of the author.

Nine Cases of Ovariotomy. By T. G. Thomas, M.D. New York. Compliments of the author.

The World Almanac, 1870.

Annual Report of the New York Orthopædic Dispensary, 1869.

On the Influence of Mental Activity on the Excretion of Phosphoric Acid by the Kidneys. By L. H. Wood, M.D. 1869.

Second Report of the New York Orthopædic Dispensary.

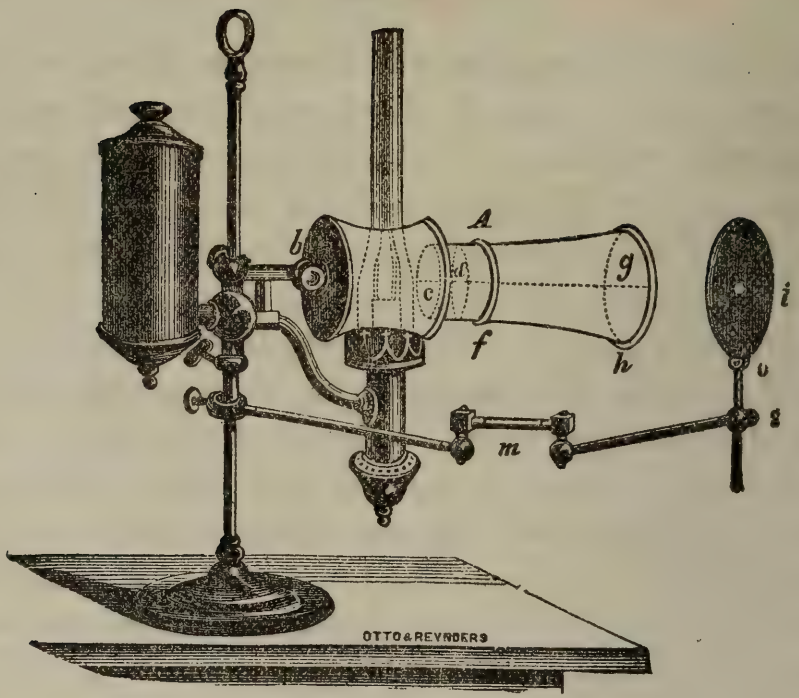
Albinism in the Negro Race. By Joseph Jones, M.D. From the author.

Mollities Ossium. By Joseph Jones, M.D. From the author.

Introductory Lecture at Jefferson Medical College. By Joseph Pancoast, M.D.

Address before the American Medical Association—1860. By Henry Miller, M.D., President.

Report of the Western Lunatic Asylum—1869-70.



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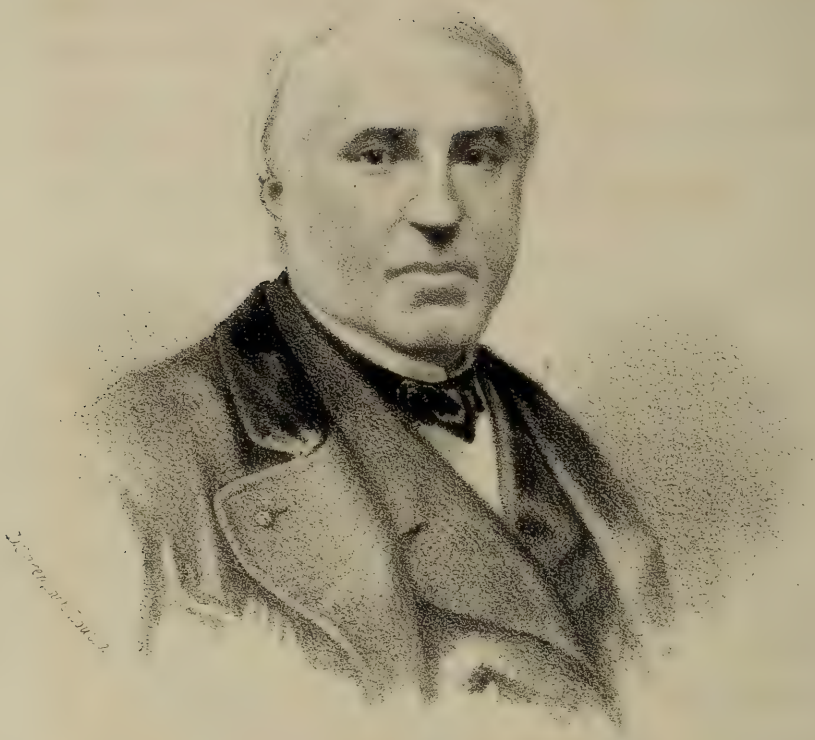

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—THOUGHTS ON CHRONIC INVERSION OF THE UTERUS, ESPECIALLY IN REFERENCE TO GASTROTOMY AS A SUBSTITUTE FOR AMPUTATION OF THE UTERUS. By HENRY MILLER, M.D., Professor of Medical and Surgical Diseases of Women in the Louisville Medical College.

These thoughts have been elicited by an interesting and highly suggestive paper of Prof. T. Gaillard Thomas, of the College of Physicians and Surgeons, New York, entitled "The History of Four Cases of Chronic Inversion of the Uterus, with the Account of an Operation designed as a Substitute for Amputation."—(American Journal of Obstetrics for November, 1869.)

Of the four cases of chronic inversion of the uterus, narrated in this paper by the distinguished author, two were his own patients, one was a patient of Dr. Thomas Addis Emmet's, and the other of Dr. Joseph Worster's. In both of the latter cases, Dr. Thomas was present, and assisted in the manipulations for the reduction of the displaced organ. To the credit of American gynæcology be it said that, in all the cases, the object of the operation, viz: the restoration of the uterus to its normal situation was attained, though not without indefatigable perseverance, especially in the last case of the series; this was

one of Dr. Thomas' cases, in which, after having been foiled, in all the manipulations that have been hitherto practiced, he resorted to a novel method, bold and original in its conception and successful in its execution. This method, to indicate it generally, for the present, consisted in gastrotomy and the instrumental dilatation of the internal orifice of the cervix-uteri—the supposed seat of the stricture, that had resisted all the efforts which had been made to reposit the womb. This invocation of surgery to the aid of manipulation was crowned with success; the resistance was overcome, the uterus was lifted to its proper place and restored to its natural relations.

Elated with the fortunate issue of this first trial of a method of treatment, which, as he tells us, he had fully elaborated in his own mind, two years before, Dr. Thomas comes before us, and confidently proposes it as a substitute for amputation of the inverted uterus. Before I discuss its claims to our acceptance, I must be permitted to clear away certain inveterate prejudices against the amputation of the womb, in cases of inversion, irreducible by manipulation. From several passages of his paper, and yet more from his practice, it may be inferred that Dr. Thomas entertains these prejudices, else why his protracted incubation of other means, even a hazardous surgical operation in aid of manipulations, rather than to apply the ligature or the ècraseur to the offending organ? His physiology is, I think, at fault, to begin with. From his *locus standi*, he regards the uterus as the dominant organ of the female economy, for he quotes with approval the often cited aphorism of Hippocrates, which has come down to us from hoary-headed antiquity, "propter uterum est mulier." The aphorism is true only in a restricted sense, namely, that a woman, deprived of her uterus, cannot bear children; it being emphatically the child-bearing organ, but it is nothing more,

and hence it is appropriately called by German writers *frucht-halter*, fruit-bearer; that is its function, and if it bear no fruit, it is of no use in the female economy. And hence, though the uterus be extirpated, a woman may retain all her other sexual characteristics, menstruation excepted, provided that her ovaries are intact.

It becomes, therefore, a very interesting physiological and practical question, whether or not the ovaries are removed in the operation of extirpating the inverted uterus? It is, I think, demonstrably true that the ovaries and fimbriæ of the fallopian tubes are never included in the abnormal cavity of the uterus, in a state of chronic inversion. Only the ovarian ligaments and the proximal portion of the tubes, together with a part of the broad ligaments, are drawn down into the new uterine cavity. And even should the ovaries be drawn into it, at the time of the occurrence of the accident, they must necessarily be extruded from it, as the cavity gradually diminishes, by the contraction of its parietes, so that in the end, it is but little, if any larger than it was before the inversion took place. That such contraction does supervene, we have evidence from the examination of pathological specimens, which show that the cavities of inverted uteri, in the chronic state, are not often larger than a crow quill. Moreover, after the amputation of inverted uteri the ovaries are never found, so far as I am informed, in connection with the extirpated mass. Nor, indeed, does Dr. Thomas affirm to the contrary, though Dr. Worster does, implicitly at least, in the record of his case, written by himself and copied into Dr. Thomas' paper.

Dr. Worster's patient had come to him from the country, for the special purpose of having amputation of the inverted uterus performed. "But," says he, "reflecting on the success of a previous case of chronic inversion, treated by manipulation, on the danger of amputation,

and influenced by the consideration that her naturally fine voice (she was an eminent vocalist) would suffer from *the loss of her ovaries*,* even if the amputation succeeded, I decided to attempt its reduction by means of the hand, aided by the relaxing anæsthetic influences of chloroform."

But, though Dr. Thomas does not say whether or not the ovaries are removed with the inverted uterus, yet he speaks with emphasis of amputation of the uterus, as a mutilating surgical procedure; and so, indeed, it is, as are all amputations; but why decry amputation of the uterus, and deprecate it more than other amputions, should it as well as they become necessary to the salvation of life? In making such a distinction, it is assumed, of course, that amputation of the uterus is a more direful calamity than any or all other amputations. Is such an assumption sustained by the facts of the case? I think not. To this extent and no further, she is affected by the mutilation; she is effecually and forever incapacitated for child-bearing. But her feminality is not destroyed by it; she does not become masculine with hirsute appendage upon her lips; her voice is not changed, nor does it lose any of the sweetness or flexibility of its tones; her breasts lose none of their plumpness, nor do her limbs become angular; she retains her sexual desires, and her conjugal relations are kept up as before the mutilation; her life is not shortened and her health is not impaired, but often it is better than ever before; and last, though not least, she is ever afterward exempt from the maladies that afflict multitudes of women, such as uterine congestion, inflammation, ulceration, prolapsus, versions and flexions, fibrous tumors, cancer, etc., etc.

In these views, which may be startling to some of my readers, I am fortified by Dr. McClintock, of Dublin,†

* The italics are miue.

†Clinical Memoirs on Diseases of Women, Dublin, 1863.

who observes, "What the ulterior effects of this operation (amputation of the uterus) are on the constitution, is a question of some physiological interest, and one which our present knowledge of the uterus and ovaries, and our actual experience enable us to answer. The capability of conception would, of course, be forever destroyed; and menstruation would take place, only very scantily, or not at all. But the woman would retain sexual feeling, and all the external feminine characters. As the uterus does not discharge any vital function in the economy, the only way in which its removal might affect her physical health would be, by the stoppage of the menstrual discharge, and *a priori* we might reasonably suppose, that it would certainly do so. But I do not know of any well marked case in support of this. In most instances the general health greatly improved after the removal of the uterus. Dr. Clarke saw his patient (a very young lady) at the end of three years from the time of the operation, and she was so fat and so improved in appearance, that he scarcely recognized her. She complained only of bad appetite, and that she had never had her changes. Dr. Johnson told me, that one of his patients became a widow, and subsequently married again. The subject of case 2 was only twenty-two years of age, and when I saw her six months after the extirpation of the uterus, she was fat and robust, and her only source of complaint was the disappearance of the catamenia. *She admitted that her sexual feelings had undergone no change.*"* In addition to the the well-authenticated cases mentioned by Dr. McClintock, I had one under my own observation, equally striking and to the point. The patient is a woman residing in this city, Mrs. R., who was delivered of her fifth child

* The italics are mine.

about six years ago, being about thirty-five years of age at the time. I am not informed whether there was any difficulty during her labor, or immediately afterwards; but after getting up, she was attacked with profuse uterine hæmorrhage, which returned at irregular intervals, and Dr. Isaac H. Keller was called to attend her. Dr. Keller had Dr. G. W. Bayless, the Professor of Surgery in the University of Louisville, summoned in consultation, whose diagnosis was that there was a tumor in the vagina, and that the tumor was a polypus of the uterus. Accordingly a ligature was applied to the supposed polypus, which caused the patient to suffer such severe pain that Dr. Bayless came to my house to consult me about it, and I gave my opinion, without seeing the patient, that the case was one of inversion of the uterus which had been mistaken for polypus. But considering that the organ had been already strangulated, and that it was, therefore, too late to attempt its replacement by manipulation, my advice was that the ligature should be slackened, to relieve the pain, but tightened afterwards from time to time, as she could bear it. Dr. Bayless obligingly furnished me with the following memorandum: "The ligature was applied on the 12th April, 1864, it broke on the fourteenth day after the operation, and and the uterus came away on the nineteenth day." The specimen preserved by Dr. Bayless, which I have carefully examined, shows that it was only the body of the uterus that was amputated by the ligature; certainly there is no trace of the ovaries. About three years after the operation I visited Mrs. R., in company with Dr. Bayless, and made a digital and specular examination of the sexual organs. I found the os uteri perfect, with about its usual projection into the vagina; its lips were full, rather pouting, smooth, perfectly healthy, and a probe readily passed into the cervix half an inch or so,

where its cavity terminated in a *cul-de-sac*. The case appeared to have been one of incomplete inversion of the uterus, and after the separation of the body of the organ by the ligature, the neck of the tumor was retracted within the os in the progress of cicatrization.

In reply to our questions, Mrs. R. informed us that her health had been good, since she had recovered from the operation; that she had neither menstruated nor felt any menstrual nisus; that she had no leucorrhœa or other trouble of the sexual organs; *that her sexual feelings were unimpaired;* and her conjugal relations the same as before the operation.

Dr. Dewees* quotes freely from an Essay of Mr. Newnham's on "Inversion of the uterus," on the uncertainty of the diagnosis between polypus and inversion, felt by Mr. Newnham, in all its force, when he was about applying a ligature to a tumor in the vagina: and then Dr. Dewees remarks: "The case which gave rise to the above conclusions, proved to be an inverted uterus; it was successfully removed by the ligature; and the woman was restored by the operation to perfect health, *and without the loss of those feelings which it is thought have their origin in the ovaria;* it was therefore presumed that these bodies were not removed with the uterus; neither did they appear to be attached to the removed portion of the uterus."

Knowing all these facts, I was, I confess, surprised by the statement in the paper of Dr. Thomas, in depreciation of amputation of the uterus, that, besides its mortality, one quarter of all operated upon having died, those who survived the operation were not cured, and neither had they made an effort to attain perfect health, but only an attempt at purchasing immunity from a series of dangerous and annoying symptoms at the price of the uterus. What is perfect health in the estimation of Dr. Thomas?

*Treatise on the Diseases of Females, p 247.

Is not the man, who has suffered for years, with caries of the bones of his leg or disease of its joints, irremediable by therapeutics, whose sufferings have wasted his strength and brought him down to the brink of the grave, is not such a man, I ask, *cured*, when he has gladly submitted to amputation, and been restored to robust health and all the enjoyments of life? He purchases health by the sacrifice of his limb, and the woman hers by the sacrifice of her womb. Neither the limb nor the womb is a vital component of the organism; indeed, the womb is of less consequence to the welfare of the individual, its function having reference to the species.

There are, doubtless, multitudes of women who for the immunity from child-bearing, conferred by it, would gladly submit to amputation of the womb, provided that the operation could be performed, without pain or risk or the knowledge of their acquaintances. What physician can doubt this, who has been often importuned by respectable married women to bring on abortion? To them the most hateful of all the obligations imposed on them by nature and by divine revelation, is "to increase and multiply."

It may still be objected by some that, though the ovaries are not actually removed by the amputation of the uterus, yet they are virtually destroyed, the utero-ovarian circulation and innervation being cut off or crippled by the destruction of so much of the broad ligaments as was included in the uterine cavity. And there is some plausibility in the objection: the functional activity of the ovaries, under these circumstances, does seem to be diminished, and ovulation is probably, happily as I think, suspended, for were it to continue, it might cause much periodical suffering, as the accompanying sanguineous congestion could not be relieved by the flow of the menses. But though the ovaries may be in a state of

abeyance, incapacitating them for ovulation there may yet remain in them sufficient activity to preserve the femininism, over which they are supposed to preside. I say "supposed to preside," for though there can be no doubt that the rapid development of the sexual organs of the female at puberty exerts a wonderful influence upon her, both physically and morally, which stamps her characteristics upon her, yet there is some reason to believe that the stamp, once impressed, is indelible and cannot be effaced even by the ablation of the ovaries along with the uterus.

My thoughts have been led into this train by the recollection of a remarkable case, the most remarkable, perhaps, in the annals of midwifery. I reported it shortly after it happened, in the Western Journal of Medicine and Surgery, vol. i., for 1840. The particulars were given by my late lamented friend, Dr. E. Drane, who was my class-mate as a medical student, and whose competency and truthfulness I can vouch for. I will extract the report from the journal just cited,

"Case of Forcible Removal of the Uterus and its Appendages, after the Expulsion of the Fœtus.

"We are indebted to Dr. Drane, of this city, for the following particulars of this most extraordinary case. A woman residing in Oldham county, in this State, was attended by a midwife in her fourth or fifth confinement. Shortly after the birth of the child, the midwife applied herself to the task of removing the placenta, and seizing hold of the os tincæ, which was mistaken for the placenta, she applied such extractive force as to lacerate the vaginal and ligamentous attachments of the uterus and bring away the entire organ with the remnents of its ligaments, the Fallopian tubes and ovaria. Very little hæmorrhage followed this rude operation, but the patient being alarmingly prostrated by the violence she had suffered, Dr. Ballard, of Westport, Ky., was summoned to her assistance. When the doctor arrived and inquired concerning the delivery, he was informed by the midwife that the patient was cleared, and his attention was directed to

a vessel containing the supposed afterbirth, as evidence that she had performed her whole duty. He was surprised and alarmed for the safety of his patient to find, on examination, that it was the uterus and its appendages, which were deposited in the vessel, and on making a section of the uterus the placenta was found enclosed in its cavity.

Dr. Drane did not see the patient, nor is he informed as to the history of the case after the accident; he only knows that, without any very serious consequences, the woman recovered perfectly; that she is, at this time, alive and in good health, and has borne no children since her mutilation. We had more than one opportunity of examining the parts, preserved by Dr. Ballard, and perhaps still in his possession, and he assures us unequivocally, that they comprise the uterus containing the placenta, the tubes, ovaria, and portions of the uterine ligaments."

Dr. Ballard's attention having been drawn to this notice of mine, he wrote me a letter confirming Dr. Drane's accuracy in describing the parts torn away by the widwife, and in the conclusion of his letter, he says:

"In this case there was no lochial discharge, nor was lactation established, showing the controlling influence of the uterus over this important secretion. Another interesting physiological fact—inquiries instituted two years after the recovery of my patient convinced me, that the accident had not entirely deprived her of sexual propensities; yet both the ovaries were removed with the uterus." (July, 1840.) C. G. BALLARD."

I have recently come into possession of some additional facts concerning the unfortunate (?) woman through Dr. E. D. Foree, now of this city, but who was then practicing medicine in her neighborhood. Dr. Foree imforms me that this woman lived upwards of twenty years after the mutilation, in the enjoyment of good health, looking in every respect as she did before the injury, and that no differencecould observed in the relations between her and her husband. Towards the latter part of her life she was affected with some disease of her urinary organs,

which made it necessary to relieve the bladder with the catheter. In performing this service for her, Dr. Foree took the opportunity to explore the vagina by the touch, and found the canal amply capacious and terminating in a cul-de-sac, which was smooth and soft, and without any discoverable marks of cicatrization. He found no trace of the os uteri.

Enough has been said, I trust, to dissipate all prejudice against amputation of the inverted uterus, considered merely as a surgical operation, save that which may remain on account of the loss of fecundity, which is necessarily involved.

The time was, and that not remote, when amputation of the uterus was the only resource in cases of chronic inversion, threatening life by the frequency and profuseness of the hæmorrhagic and other discharges attendant upon them.

It had been settled as a cannon in obstetric medicine, that an inverted uterus cannot be reduced by any kind of manipulation, when any considerable time has elapsed since the displacement occurred. Few were bold enough to make the attempt, after the lapse of a week or two; but after the lapse of months, when involution had restored the organ to its unimpregnated size, none had the hardihood to venture upon such an experiment. The profession were aroused in this country, from servile submission to authority, by the publication of a case of chronic inversion of the uterus of six months' duration, successfully reduced by Prof. James P. White, of Buffalo. Dr. White accompanied his report of the case with remarks on reduction in chronic inversion, illustrated by four wood-cuts, making the manipulation, by which he succeeded, easy to be understood.

*The American Journal of the Medical Sciences, for July, 1858.

It is necessary to my purpose that the method of manipulation, pursued by Dr. White, and the various modifications of it, which other operators have adopted, should be described. Before I proceed to do this, however, it is meet that I should pay a tribute of honor to our countryman, Prof. James P. White, who has not received the credit he so well deserves, for his leadership in the revolution of gynæcological practice, which he inaugurated. Even a superficial reading of his report must satisfy any one that he regarded himself as a pioneer in his attempt to reduce, by the taxis, chronic inversion of the uterus; and that he was wholly unconscious that such a surgical feat had been performed either at home or abroad. Neither had it been so much as thought of at home, much less performed, nor had it been performed abroad in such a way as to attract professional attention or inspire confidence in it, until Dr. Tyler Smith, of London, published a case of twelve years' duration in the London Medical Times and Gazette, April 24th, 1838, which of course could not have been known to Dr. White, whose case was successfully treated on the 12th of March, immediately preceding, though not published until July following, the earliest time that it could be published in a quarterly journal.

According to the method of manipulation practiced by Dr. White, the patient was placed upon an elevated, firm bed, "with the hips brought quite to its edge, the knees separated, the feet resting in the laps of assistants, with directions to each to support a knee and hand of the patient, and prevent her from moving about." She was brought moderately under the influence of chloroform. Having placed himself upon his knees between the limbs of the patient, the operator introduced his right hand completely into the vagina and forcibly grasped the entire body and neck of the uterus; and at the same time

a large rectum bougie was carried up and received into the palm of the hand and held firmly in contact with the fundus of the uterus. "Continuous, gentle pressure was now made upon the external extremity of the bougie with the left hand, whilst the right compressed the uterine tumor and kept the upper extremity of the instrument directly upon the fundus; and with the dorsum of the hand in the concavity of the sacrum, directed the force in the axis of the pelvic cavity, putting the vagina completely upon the stretch. This pressure was exerted and this position unintermittingly maintained, although the force was not to such a degree as to endanger laceration of the utero-vaginal connection, until my strength was nearly exhausted from continuity of effort. At length, and when about to relinquish the task, the uterine tumor began to shorten *at its neck*, and the mouth of the organ to push upon the upper surface of the hand. No depression or dimpling of the fundus was at any time perceptible. Ascending more and more rapidly as the neck diminished in length, the fundus finally passed out of the hand, and was easily pushed by the bougie through the mouth and neck of the organ up to its proper position."

The method of manipulation contrived by Dr. Tyler Smith, in his case, consisted in passing the right hand into the vagina, night and morning, and with it squeezing and moulding the uterus for about ten minutes at a time. In the intervals between these manipulations, the vagina was distended and firm pressure exerted upwards by a large air pessary. These means gradually dilated the os uteri to such an extent as to allow of the partial return of the uterus, and on the eighth day from the commencement complete reïnversion took place.

It will be observed, that although the force in Dr. White's method was made to bear specially on the fun-

dus, by the rectum bougie, yet he distinctly says that there was no dimpling or depression of the fundus, but the uterine tumor began to shorten at its neck. The cervical resistance was then overcome by the pressure exerted upon it by the manipulations of the fundus, and the parts which last escaped were first returned. It has been doubted whether or not the fundus uteri, in chronic cases, can be indented; but another method, that of Dr. Noeggerath, proceeds upon the assumption that it can be. This method, as we learn from Dr. Thomas, who highly approves it, "consists in compressing the uterine body, opposite to each horn, so as to indent one of these and thus offer to the cervical canal a wedge which passes up and is followed rapidly by the other horn and the whole body."

There is yet another method, which has been successfully practiced by the ingenious and skillful surgeon of the New York Woman's Hospital, Dr. Thomas Addis Emmet As described by him, "it consists in passing the hand within the vagina, and while the fundus rests in the palm, the five fingers are made to encircle the portion within the cervix, as near as possible to the seat of inversion. While this portion is thus firmly grasped, it is pushed upward, and the fingers are immediately afterward expanded to their utmost.

When the reduction is so far advanced that the fingers cannot be passed fully up to the seat of inversion, steady pressure is applied to the fundus, by means of the tips joined together, while an increased effort is made with the other hand to roll out the parts above, by sliding the the abdominal parietes over the edge of the ring near the seat of the inversion."

Yet another method has been proposed by Dr. Thomas, which is not so much a distinct method of manipulation as it is a manœuvre—a strategic movement—which seems

to be designed to take the stricture by surprise. Taking the fundus in his fingers, he draws it down outside of the vulva and rapidly pushes it up to the highest point possible in the pelvis. This manœuvre is only available, as the Doctor informs us, after the uterus is partially replaced by other manipulations.

We are now prepared to institute a comparison between the treatment of chronic inversion of the uterus by amputation and by manipulation. Before we proceed to do so, however, I think it proper to caution the reader not to allow his predilections to bias his judgment in favor of manipulation. In the investigation of all subjects, we need to be on our guard against the warping influence of our predilections as well as our prejudices. It is so much more gratifying to our feelings to save than to destroy—to restore a distorted organ to its pristine shape than to lopp it off—that we may be tempted to undue and unsafe perseverance in our manipulatory efforts. Moreover we may be led to prefer manipulation where, under all the circumstances of the case, amputation ought to be performed.

This being premised, I will now compare amputation and manipulation in the following points of view: 1. Their respective mortality and success, so far as the attainment of the object of the operation is concerned. 2. The validity of the cures effected by them respectively. 3. Their respective range of applicability and success, so far as regards the attainment of their object.

1. *The respective mortality of amputation of the inverted uterus and replacement by manipulation.*

The mortality from amputation of the uterus, *in cases where the inversion succeeded to parturition*, is stated by Dr. West* to be fifteen out of fifty-nine cases, or nearly one in every four. To show the results obtained by the

*Lectures on the Diseases of Women, third American edition, p. 197

different modes of operating in these fifty-nine case, he has compiled the following table:

		Recov'd.	*Died.*	*Operat'ns abandoned.*
Uterus removed by ligature,	45	33	10	2
" " " knife or ecraseur, : : : : :	5	3	2	
Uterus removed by knife or ecraseur and ligature :	9	6	3	
	59	42	15	2

With these results exhibited by Dr. West, in cases where the inversion followed parturition, it will be profitable to compare other cases *where the inversion was complicated with, and caused by polypus* of the uterus, for such complication cannot be regarded as insignificant and unworthy of our attention. In the American Journal of Obstetrics, etc., for August, 1868, there is a "Record of removal of the inverted uterus by ligation, excision, and by both combined," translated from *Beitraege zur Geburts, Kunde und Gynækologie*, which Dr. Thomas copied into his paper for no other purpose, so far as it appears, than to show the increased rate of mortality from amputation of the uterus, eigthteen out of the fifty-eight—nearly one-third—dying from the operation. I will not swell my pages by copying this record, but endeavor rather to extract some useful lessons from it that may serve to throw light upon the often obscure pathway of our practice.

The first lesson taught us by this German record is, that polypus is a more frequent complication of inversion of the uterus than has been generally supposed. According to the statistics of Mr. Crosse, it occurs once in every eight cases, the remaining seven being sequelæ of parturition. But from the record before us, it appears that it was met with fourteen times in fifty-eight cases, being once in every four and one-seventh.

The *second* lesson is, that amputation of the uterus, by

all the modes of operation, issued more unfavorably where polypus complicated the inversion. The operation was successful in nine out of the fourteen cases and fatal in five, rather more than one-third of the number submitted to it. This is, perhaps, no more than we might have anticipated, the uterus being diseased as well as displaced.

The *third* lesson is, that the operation by excision is less successful than by the ligature, or the ligature and excision combined. Of eight patients treated by excision six died, while of twenty-three treated by the ligature, sixteen were saved and seven were lost; and *of twenty-seven treated by ligation and excision, twenty-two recovered and five died—i. e., one death in five and two fifths* cases. Shall we not profit by such a lesson as this? Even if we had not been taught by experience, speaking through this "record," the fatality of excision, we ought to have dreaded it on account of the hæmorrhage that must unavoidably accompany it, and over which we can have but little control. I shall never forget my first and only case of excision, which happened many years ago, before I had thought much about the operation, or consulted many authors concerning it. The patient was a poor, wasted creature, who was anæmiated by profuse losses of blood, and whose sufferings made her pray for death. She was most anxious to submit to any operation, that promised either to cure her or to release her from the bonds of life, apparently indifferent whether she lived or died. After a consultation with my friend, Dr. S. D. Gross, who was at the time my colleague in the University of Louisville, it was concluded to amputate the uterus with a bistoury, which was made for the purpose. The operation was easily performed, with the able assistance of my friend; alarming hæmorrhage immediately ensued; a speculum was introduced in the hope

that the bleeding vessel might be secured. But to my great surprise, on bringing the cut surface to view, there was a great circular ring, into which the tips of two or three fingers might have been inserted, and through which the intestine could be seen. It was plain that hæmorrhage was going on apace, but it was equally plain that the bleeding vessel could not be ligatured, and that there was no hæmostatic, which could staunch the flow The patient sank rapidly and in a few hours died.

If amputation by excision endangers the life of the patient by hæmorrhage, ligation may destroy it by septicæmia, arising from the putrefactive decomposition of the strangulated portion of the organ. From fifteen to thirty days after the application of the ligature, this decomposition is going on, and the parts are immersed in acrid and fetid discharges, which undermine the strength and poison the blood. We are not surprised, therefore, that ligation, though it yields better results than excision, is yet not so favorable as ligation and excision combined; for, by this method, hæmorrhage is avoided on the one hand and septicæmia on the other, together with most of the discomfort arising from the nauseous odor of the discharges.

It should be a rule of practice to allow the ligature to remain on a sufficient time for the strangulated portion to begin to putrify, as evinced by some odor from the genitals, before excision is made. Within this period, inflammation will have been set up above the ligature, by which adhesion of the parts involved in the inflammatory process will be secured, and there will no longer be danger of hæmorrhage. What interval there should be between the ligation and excision has not been settled, and to me it seems that the rule adopted by Dr. M'Clintock,* after consultation with Dr. Johnson, is a safe one, namely,

*Op. cit, p. 89.

that the ligature should not be removed and excision practiced under forty-eight hours. Dr. M'Clintock relates two cases in which he amputated the inverted uterus, by the ligature and ècraseur with the most satisfactory results. His practice was to apply a ligature of silk fishing-line, prepared in oil, round the neck of the uterus, by means of a Gooch's canula, and to tighten it as often as necessary, and after the lapse of forty-eight hours, to draw down the uterus with a vulsellum until it appeared between the labia, just enough to permit of carrying the chain of the écraseur around it; "the chain having been securely lodged in the sulcus made by the ligature, this and the canula were withdrawn: the écraseur was worked very slowly, and eight minutes passed over before the uterus was severed."

If, by the combination of ligation and excision, the mortality was reduced to one in five and two-fifths cases, there is reason to hope that, under more skillful surgery and improved after treatment, the mortality will become still less. We are encouraged in this hope by the information, communicated by Dr. M'Clintock, that the operation has been performed eight times in Dublin—five times by Dr. Charles Johnson, once by Dr. Joseph Clarke and twice by himself, the first two using the ligature only—and in all of them with complete success.

What has been said leads me to inquire whether or not any other capital operation in surgery can boast of a less rate of mortality than amputation of the uterus? Sir James Simpson,* pleading for the recognition of ovariotomy as a legitimate surgical operation, (such recognition having been persistently flouted), proved by the irresistible logic of figures that ovariotomy is less fatal than some of the other capital operations in surgery,

*Clinical Lectures on diseases of women, Amer. edit., 1863, p. 378.

and but slightly more formidable and dangerous than others.

The mortality from various capital operations "which," as Sir James says, "are not only considered as legitimate, but which surgeons count it a glory to perform," is set forth in tabular form, showing the results, as they have been reported by different surgeons, or as occurring in different hospitals. It is not necessary for my purpose to copy this table in full: I shall merely name the different operations and affix to them severally the rates of their mortality, appending to those included in Sir James' table, amputation of the uterus:

Ovariotomy, one in three and one-fifth; *amputation at hip-joint* for chronic diseases, one in one and one-third; *herniotomy*, one in two and one-sixth; *amputation of limbs*, one in two and one-half; *ligature of innominate artery*, all died; *amautation of thigh*, one in one and three-fifths; *ligature of subclavian*, one in two and seven-tenths; *amputation of the aterus for chronic inversion*, one in five and two-fifths; *ligature of other large arteries*, one in three.

Some of the reports in the table are omitted, as they relate to amputations in different hospitals and they coincide very neary with those retained. It will be seen from the above list that amputation of the uterus has been attended with less mortality than any of the other operations, not excepting ovariotomy.

I do not find, however, that the operation has taken a place among other amputations, in any of our treatises on surgery, or that it is so much as noticed, except incidentally, in any of them 'except in Dr. Gross' System of Surgery, where it is dismissed upon short notice. He says: "When the tumor is hopelessly irreducible, it is not only a source of mechanical inconvenience, but of almost incessant hæmorrhage, draining the system of

blood and keeping the woman constantly at death's door. Under such circumstances, as a dernier resort, amputation is occasionally practiced. The operation, however, is generally fatal, the patient dying from shock, hæmorrhage, peritonitis, or pyæmia. In a case in my hands, some years ago, death occurred in less than forty-eight hours from inflammation; and in another, in which I assisted Prof. Miller, the woman perished from hæmorrhage in less than three hours. From the results of these two cases, I should certainly have no desire to repeat the operation."*

When, according to the author's statement, the patient is at death's door, or rather before she reaches so near her goal, why not give her a reasonable hope of escape by an operation, which, as I have shown, is less fatal than *any* of the operations which he is in the daily habit of performing? Is it a less boon to snatch the poor woman from death by the sacrifice of her womb, than it would be to rescue her from the same fate by the amputation of her limb at the hip-joint?

Dr. Marion Sims (op cit.) has as little desire, as Dr. Gross, to repeat the operation. He too has performed it only once, and then by excision, the écraseur alone having been made use of instead of the knife. The consequence was that the most fearful hæmorrhage he ever encountered took place, and in an instant the vagina was filled with arterial blood. "Fortunately," he tells us, "the bleeding was from that part of the broad ligament still adherent to the severed uterus," and the undivided portion of it, with the artery was tied. Had the broad ligament been severed with the rest of the uterus, his patient must have bled to death. This case is but another warning against excision, whether by the knife or ècraseur, for experience has abundantly shown that the

*System of Surgery, Second Edition, Vol. II., p. 902.

écraseur is no sure guarantee against hæmorrhage after any surgical operation. Had Dr. Sims, Dr. Gross and myself operated as Dr. McClintock did in his case, the result might have been different: at least there would have been no hæmorrhage.

I will now inquire into the mortality and success of manipulations practiced with a view to the replacement of the uterus, in cases of chronic inversion. Previously to doing so, however, it is necessary to define the meaning of the term "chronic" in this relation. I shall apply it only to cases of three months' duration and upwards, which is not an arbitrary distinction founded on time only, but on the period that must elapse after parturition before the involution of the uterus is probably complete. Boivin and Dugés affirm (1) as I think, truly that the reduction of the uterus, after parturition, to the volume and density natural to it in one who has borne children, does not take place in less than about two months, and I think it fair to allow an additional month for the retarding influence exerted by the displacement upon the process of involution. No case of inversion ought, therefore, to be considered as chronic, which has not existed at least three months, and not even then, if the uterus be found larger and softer than it should be at that period after parturition. In such a case, reinversion might be comparatively easily effected by manipulation, whereas had involution been complete, the operation would have been difficult, if not impossible. On these grounds I reject from the category of chronic cases not only all such as were only of a few week's duration, but also such as were of longer continuance, when we are told by the reporter that the uterus was not completely involuted Thus, in Dr. Belcombe's case, (2) the womb was found, 12

1 Traite Practique des Maladies de l'uterus. Tome 1, p. 35.
2 Med. Gaz., 1841. Vol. VII., p. 783, quoted by Dr. West.

weeks after delivery, a large spherical pouch, and in Dr. Miller's patient, (3) at the end of three months, it like wise admitted readily the introduction of two fingers into its cavity.

The cases of chronic inversion of the uterus, in which manipulations have been tried, are not numerous: still I have collected a sufficient number to enable us to form an approximate estimate of the danger, if any, and the success or failure of the practice.

Experience has taught us that Dr. Tyler Smith was over-sanguine when he declared, in his paper reporting a case of nearly twelve years' duration successfully treated, that while no amount of force will suddenly reduce a case of chronic inversion, yet by air or fluid pressure, so as to convert the fundus and body of the uterus into a wedge, the os uteri may be slowly enlarged, in any case, so as to admit of reinversion. We shall presently see whether or not this prediction has been verified.

The following is a list of cases of chronic inversion, which I have collected:

M. Valentine's case of 16½ months standing.

Mr. Barrier's case of 15 months.

M. Canney's case of 5 months. (4)

Dr. James P. White, of Buffalo, 6 months. (5)

Dr. James P. White, 15 years standing. (6)

Dr. Tyler Smith, nearly 12 years. (7)

Mr. T. P. Teale, Jr., of Leeds, 2½ years. (8)

Dr. Charles West, nearly 12 months.

Dr. Charles West, 7½ months. (9)

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3 Ed. Monthly Journal, Dec. 1851, quoted also by Dr. West.
4 For these I am indebted to Dr. Churchill's Diseases of Women, New Amer. edit., revised by the author, 1857.
5 American Journal of the Medical Sciences for July, 1858.
6 Amer. Jour. Med. Sciences, for Jan., 1859.
7 Med. Times and Gazette, April 24th, 1858.
8 Med. Times, Aug. 20, 1859, quoted by Dr. West.
9 Lectures on Diseases of Women, p. 195.

M. Brockenthal, 6 years. (10)

M. Aran, duration not stated, but doubtless chronic, as evinced by the intractableness of the inversion. (11)

Dr. Nœggerath, of New York, 13 years. (12)

Dr. McClintock, 14 months' standing. (13)

Dr. Thomas Addis Emmet, 7 months.

Dr. Thomas Addis Emmet, 8 months.

Dr. Thomas Addis Emmet, 18 months. (14)

Dr. Thomas Addis Emmet, 14 months. (15)

Dr. T. Gaillard Thomas, nearly 2 years.

Dr. T. Gaillard Thomas, 10 months. (16)

Dr. Joseph Worster, nearly 4 years. (17)

Dr. Marion Sims, 9 months.

Dr. Marion Sims, 12 months.

Dr. Prothero Smith, 13 months. (18)

The late Prof. John Hardin, several years. (19)

I will now analyze these twenty-four cases to ascertain the results of manipulatory treatment of chronic inversion of the uterus. And, in the first place, it is to be remarked that *two of the patients died:* one of Dr. West's, and one of Dr. White's. In the former, replacement was not accomplished, in the latter it was; but peritonitis supervened in both cases, which proved fatal. It is worthy of remark that different methods of reposition were practiced in these cases; Dr. White used the rectum bougie and greater manual force than did Dr. West, who employed the air pessary, as recommended by Dr. Tyler Smith, which has been supposed to be milder and safer in its operation, but yet it was not less lethean in its

10 Zeitschr. f. Gebertskunde, Vol. XV., p. 313, quoted by Dr. West.
11 Quoted by Dr. West.
12 Amer. Med. Times, 1862, p. 230.
13 Clinical Memoires, p. 85.
14 Amer. Jour. Med. Sciences, for Jan. and April, 1866, and Jan., 1868.
15 Amer. Jour. of obstetrics, for Aug., 1869.
16 Amer. Jour. of obstetrics, &c., for Nov. 1869.
17 Amer. Jour. Med. Sciences, for Oct. 1867.
18 Transactions of the London Obstetrical Society, Vol. X.
19 This case has never been published, but I saw it in consultation.

effects, in the hands of Dr. West. Dr. West's account of this case is instructive and may serve to abate the confidence with which we might assail an inverted uterus, in full assurance of success. He had replaced the organ, in his first case, in four days, notwithstanding that it had been inverted nearly twelve months: in his second case the pressure of the air pessary continued for twelve days, "while it failed to replace the womb, gave rise to peritonitis, of which the patient died, four days after the pessary had been removed. The instrument had produced complete dilatation of the os uteri, but had had no influence on its fundus, the uterine tissue at the point of inversion being hard and puckered, so that the little finger could with difficulty be pressed into the cul-de-sac formed by it."

In Dr. Aran's case the presence of the pessary in the vagina produced abdominal pain, shivering and febrile symptoms, and the operation was abandoned. Of his case Dr. McClintock* says: "Having entertained sanguine expectation of success, in consequence of the relaxed condition of the os uteri, it was with much reluctance I abandoned the attempt to restore the organ to its natural position. But after giving the taxis what appeared to be a fair trial, I felt it was quite needless, if not highly dangerous to persevere any longer."

In Dr. Marion Sims' case, notwithstanding that he had just said that reinversion is "quite practicable," after steady efforts of four hours continuance, the uterus was only partially replaced, i. e. the fundus was pushed up within the os uteri, but it could not be passed farther. On examining a day or two afterwards he says that he was horrified to discover that the vagina, particularly at its posterior cul-de-sac, had an ecchymosed appearance,

*Op. cit.

as if it had been stretched almost to the verge of being ruptured. About eighteen days afterwards another effort of an hour's time was fruitlessly made, and yet another after a proper interval, and all hope of replacing the organ was abandoned. "After this," we are told, "she and her husband begged to have the organ removed, as we promised to do it with the écraseur without pain." Of the operation I shall speak further on.

In one of Dr. Emmet's cases the operation was not accomplished, except partially, and after a peculiar fashion, of which I shall speak more anon. Dr. Thomas failed to reinvert the uterus by ordinary manipulations in one of his two cases, and the late Dr. Hardin failed in his case, and by the usual progress of the disease, the patient died. The comparison between amputation and manipulation brings out, therefore, this result, namely, amputation, when performed by the best method, is attended with a mortality of 1 in 5 2-5 cases, but it never fails to accomplish its object—the ablation of the uterus. Manipulation shows a mortality of 1 in 12 cases, and it fails to attain its object—the restoration of the uterus—in seven cases, while in three out of the seven, it had to be abandoned on account of the alarming symptoms to which it gave rise.

2. We have to inquire, into *the validity of the cures effected by amputation and manipulation respectively.*

It is to be regretted that, in respect to these operations as to all others in surgery, there is a deplorable lack of information touching their sequences. After the operations, satisfactorily and, it may be, brilliantly performed, surgeons are too apt to lose sight of their patients and cease to take much interest in them. Perhaps they are not to be blamed: the daily pressure upon them of new cases absorbs all their time, and they cannot pursue the patients, whom they have dismissed. Be this as it may,

they hear but little, and that only of a few, whom they have lost sight of.

Of the sanitary condition of a few women, who have been submitted to amputation of the uterus, I have already given an account, and that account is satisfactory in the highest degree. Their health was good, even robust, and in no respect did they differ from what they were, save that they were incapacitated for child-bearing. How is it with the women, who have had their wombs restored to their rightful position? In a few cases, the gestative function has been resumed. Dr. Tyler Smith tells us that since the presentation of his paper, he has been informed that his patient was in the fifth month of pregnancy. Equally gratifying information was conveyed to Dr. Emmet by the husband of one of his patients, and Dr. Worster says of his patient that she returned home "with a complete aptitude for conception."

The joyful news of prospective children was sure to find its way to the ears of the happy operators: but what became of the remaining twenty-one or twenty-two? Indeed, should Dr. Worster's confident prediction be not fulfilled, of whom we hear nothing. In the absence of information, we cannot refrain from speculation.

Knowing, as we do, the proneness of the uterus to all manner of disease, we are slow to hope that, after having gone so far astray as to be turned inside out, and then be violently pushed back to its place, it will settle down in a healthy condition. If not diseased previous to its inversion, as it is, where polypus exists and has caused the displacement, is it not extremely liable to become so after what it has undergone?

And ought we not to expect that congestion, inflammation, or ulceration, or some other kind of displacement,

such as flexion, or version, or prolapsus may invade it? We know too well how difficult such diseases are to cure, how chronic they are, how they embitter the lives of multitudes of women, so that they might gladly purchase immunity from them, even by the loss of their wombs, provided that the price could be paid without suffering or risk.

3. *The range of applicability of amputation and manipulation respectively.*

It scarcely needs to be said that amputation is applicable to all cases of chronic inversion of the uterus, where it is judged to be the proper remedy. It is conceivable that the organ might be found to be in such a diseased condition that it would be the height of imprudence to attempt to restore it or to save it. In such a case, there could be no hesitation in removing it by the proper operation. Then again, manipulation, however perseveringly tried, may fail, as we have shown that it has failed in nearly one-third of the cases in which it has been practiced, and then amputation is, or at least, has hitherto been, our only alternative, and it is applicable here, just as it is in cases where it is called for on account of disease of the uterus accompanying inversion.

Is manipulation equally applicable to all cases of inversion? This is a question which I propose to discuss for a few moments. In cases of inversion, complicated with polypus of the uterus, and we have seen that they are not infrequent, my own opinion is, that an attempt to restore the uterus to its normal position by manipulation is not admissible, because it is in a diseased state, and, if restored, would most likely prove to be a plague rather than a blessing.

I cannot but sanction the course pursued by Dr. McClintock, in such a case as this, in the person of Mary O'Hara, aged 66, a charwoman, who was never married,

and her changes had ceased fifteen years before there was complete procidentia and inversion of the uterus, with a polypus growing from the fundus. Says Dr. McClintock. "The completeness of the inversion, and the patient's extreme intolerance of any squeezing or manipulation of the tumor, altogether excluded the hope of doing any good by attempts at reposition." And I admire the good sense as well as the pluck of the poor woman, who, when informed that the womb must be extirpated, plainly told her medical advisers "to whip it off as soon as they liked." The extirpation was performed, and the patient recovered, being one of the eight in Dublin, all of whom were saved by the operation. What use had she for the womb, and why should she care to have it put back, supposing that it could have been done, only to give her trouble in future? This case is, judging from the figures representing them, the counterpart of Dr. Emmet's fourth case.*

His patient, Mrs. Conklin, was 54 years of age, had been married but was sterile, the uterus was found inverted with a fibro-cystic tumor at the fundus, which presented just within the labia. "The tumor was as large as a pigeon's egg, but had evidently undergone a reduction in size from cystic degeneration," and on the right side of the uterus, the shrivelled remains of a mucous polypus existed. Dr. Emmet further stated, in the discussion which followed the reading of his paper before the New York Obstetrical Society, that there had existed quite a number of glandular cysts in the uterus itself, some of which he had emptied out by pressure after the removal of the tumor. Dr. Emmet's treatment of this case consisted in the removal of the *tumor* by the écraseur, and then attempting the reposition of the uterus. With

*Amer. Jour. of Obstetrics, &c., for Aug., 1869.

much skill and ingenuity he succeeded in pushing the fundus within the os uteri and up to the plane of the vaginal junction, so that a sound could be passed within the cavity a little over an inch. It was found impossible to make any further advance, and recourse was had to a devise which Dr. Emmet had found to succeed in a previous case, viz: the introduction of three silver sutures into the cervix, without denuding it of its mucous membrane; the steady pressure thus maintained against the fundus would, it was hoped, overcome the resistance and complete the reposition. The patient was sent home but returned in six weeks, when it being found that the partial inversion still continued, a portion of the inner face of the os uteri was denuded, and three deep interrupted silver sutures brought the sides together in the centre, leaving the line open at each extremity. "The sutures were removed on the eighth day, the union was found perfect, and shortly afterwards, she was discharged from the hospital."

In this case, as it appears to me, amputation was more clearly indicated than in Dr. McClintock's case. The patient had as little use for a womb as Mary O'Hara, and certainly Mrs. Conklin's was the most diseased, for besides the polypus of the fundus there was extensive disease of the utricular glands of the mucous membrane of the uterus. The renowned Surgeon-in-chief of the New York State Woman's hospital, I must think, displayed the qualities of the ingenious and skillful operator more than those of the profound pathologist. Why should a uterus, rioting in disease, be stored away in a receptacle, specially provided for it? Filled with the germs of disease, as it seemed to be, is there not reason to fear that these will multiply, as in a hot bed, and bring forth fruit unto death? Time alone can give a satisfactory answer to these questions.

These "Thoughts" have been scattered over a wider expanse than I had intended, and must now be concentrated upon the substitute for amputation of the uterus, proposed and practiced by Dr. Thomas. His substitute, as we have seen, is a grave surgical operation, supplemental to manipulations, by which their deficiency may be made up, and so the much-dreaded amputation be altogether dispensed with.

We will now let Dr. Thomas introduce his patient: "I found Mrs. B. to be a delicate, fragile blonde, weighing about ninety pounds, very pale and exsanguinated from profuse menorrhagia, which had occurred at intervals for twenty-one months. Taxis had been tried fourteen times, some efforts lasting from five to six hours, and only one less than an hour. The constriction which resisted reduction had been cut at infinite risk, and all had failed. The only recognized operation which now offered itself was amputation, and at the thought of this the patient revolted." Having had a steel dilator, made on the principle of a glove-stretcher, fabricated for the occasion, Dr. Thomas was ready for the novel operation, which he shall describe. "The patient having been put under the influence of ether, Dr. Metcalfe introduced his hand into the vagina, and lifted the uterus so that I could detect the cervical ring against the abdominal wall. I then slowly cut down upon the median line, as for an exploratory incision in ovariotomy, and leaving the wound exposed to the air until all oozing had ceased, cut into the peritoneum. I then inserted my finger into the uterine sac, and found no adhesion whatever to exist. Replacing Dr. Metcalfe's hand by my left hand, I now inserted the steel dilator, and dilated the stricture. *The dilatation was exceeding easy and rapid*,* but I found that as I withdrew the dilator, the tissue of the organ would at once contract. After dilating the stricture fully, *I partially returned the uterus after some effort.* Drawing it down to the vulva, I rapidly pushed it up, and was gratified at finding that it was nearly replaced. Drawing it down again, *this time outside of the body*, to my dismay, I discovered that the artery, cut one week before, was spouting freely. I now saw that success must be attained

*The italics are mine.

at once, or that it would elude my grasp when just within it. Actuated by this feeling, I rapidly returned the organ, and was delighted to find one horn rise into its place. *But the additional force employed was a little more than the vagiua could bear, and one finger passed through between the uterus and bladder.* One horn was still inverted. Passing the dilator into this, I stretched it open, and instantly the uterus resumed its normal position."

Nothing can excel the graphic description of the operation contained in this extract, while perfect truthfulness and candor are conspicuous in every line of it. Whether or not the operation will eventually establish its claim to be a substitute for amputation, experience alone can decide; but in the mean while it is allowable for us to judge between them according to all the collateral light that can be made to shine upon them, so that gynæcologists may be encouraged to repeat the operation or to avoid it, according as their verdict may be favorable or unfavorable to it.

To express my thoughts fully, beforehand, on the important question, which has just been referred to the arbitrament of experience for its final decision, I shall have to explain the nature of inversion of the uterus, and what is involved in it. This is a rather intricate subject, which is but poorly illustrated by drawings or models, and which can be clearly comprehended only by fixing the attention upon it and getting it delineated, as it were, in the mind. Few, I apprehend, take the trouble to get it thus mentally mapped out, and yet unless this is done, I shall fail to make myself understood.

To proceed with my explanation.

Inversion is the turning of the uterus inside out, by the falling of the fundus into its cavity and its descent until it reaches the os uteri, through which it passes into the vagina and thence escapes at the vulva, appearing outwardly as a red, vascular and bleeding tumor between the thighs of the patient. Such is the lapsus of the uterus

and such its appearance, in recent cases, when it occurs as a sequela of parturition. If only the fundus and body have escaped through the os uteri, it is *incomplete* inversion, and the part that last escaped will be found encircled by the os uteri, and at the point above the os where the inversion was arrested, there will be a ring formed by the folding of the lapsed wall of the uterus upon the stationary wall, which is the outermost. This ring I shall call the "parietal duplicature," and it is an important point to be noted. This duplicature may take place at the internal os of the cervix, or above or below it, and it becomes the bottom of the *cul-de-sac* into which the cervix is converted, whose depth, measured from the os uteri, varies according as the parietal duplicature is near or remote from the os uteri. It is a mere assumption to limit this parietal duplicature to the os internum of the cervix, for in the recently emptied gravid uterus, the cervix is quite expanded, and no cause can be assigned why the duplicature of the uterus should be opposite to what will be the os internum, when the division into body and neck is restored by the tonic contraction of the organ.

If not only the fundus and body, but also the cervix, have become inverted, the inversion is *complete*; then there is no *parietal duplicature*, and the os uteri is the summit of the uterine tumor, and the cervix, in being inverted, draws the upper portion of the vagina along with it, the vagina being then attached, funnel-shaped, to the inside of the inverted cervix. The os uteri is now continuous with the vagina, and its orifice cannot be reached, for it opens upwardly into the cavity of the abdomen.

This displacement necessarily produces a *cul-de-sac* or pouch of peritoneum above the entrance to the abnormal cavity of the womb.

It has been disputed whether complete inversion of the uterus ever occurs, and certainly it is rare, much rarer than the perusal of cases narrated by incompetent and careless observers might lead us to believe. Nothing is more common, especially if the uterus should protrude through the vulva, than for such an observer to say that it is completely inverted, mistaking the size of the uterus and the degree of protrusion for completeness of inversion. Then again, the inversion may be arrested just at the os uteri, (the third degree of the displacement of Boivin and Dugés*) and without a very caretul examination by a practiced touch, the os uteri might not be felt. It is, nevertheless, true that complete inversion does sometimes, though rarely, take place, as the well-authenticated cases, cited by the authors just quoted, fully attest.

When complete inversion happens at the time of parturition, the tumor formed by the uterus is larger than it should be at such time, for it is distended by portions of intestine lodged in it as well as by the ovaries and Fallopian tubes. In the cases referred to, this was proved by post-mortem examinations. In the first of these cases, by Stalpart Van der Wiel, the intestines were brought to view by an incision of the tumor hanging between the thighs of the patient. Not to refer to others, a case, by the celebrated Levret, shows that the sac, formed by the inverted uterus and vagina, was filled with a portion of the rectum, the bladder, the small intestines and the tubes and ovaries: the patient, in this case was seventy years of age, and of course the inversion was chronic.

Observe now that, when inversion takes place, it is by a movement of the uterine walls inwardly, and when reïnversion occurs spontaneously, if it ever does, or is effected by art, it is by an opposite movement. The

*Traitê des Maladies de l'Utêrus, tome 1, p. 220.

morphological changes that arise from inversion are curious and worthy of notice. If the inversion be incomplete, the cavity formed by the inverted portion of the uterus is a preternatural one, lined by *serous*, and covered by *mucus* membrane, and it has a preternatural mouth, looking upwardly towards, and communicating with the cavity of the abdomen. This mouth is formed by the *parietal duplicature*, and might be called the *os præternaturale*. Beneath this cavity is the natural cavity, or so much as remains of it, of the cervix, lined of course by mucous membrane, and it continues to communicate with the vagina by the os uteri which is now only the mouth of the cervix. In becoming, whether completely or incompletely inverted, the uterus probably draws along with it not only portions of the broad ligaments, but also the Fallopian tubes and ovaries; and likewise portions of small intestines; for the womb is so large and its walls so flaccid, that there is ample room for their reception.

So much for a brief description of the changes the uterus undergoes, in recent parturient inversion. But when the inversion has become chronic, the uterus has returned to its non-gravid state: it has retreated within the vagina, its walls have resumed their previous density; its cavity has contracted down to the small size, which it had, before parturition seriously distorted it. In this process of involution, the ovaries, etc., are ejected from the uterine cavity and lodged above the uterus in the peritoneal pouch.*

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* *Note on the Operation of Amputation of the Inverted Uterus.*—The admitted fact that loops of the small intestine are contained in the recently inverted parturient uterus, taken in connection with Levret's case, where these were found, in a case of chronic inversion, in a woman aged seventy years. may be regarded by the timid as counter-indicating the operation of amputation. But Levret's case is an unique one: I know not that a parallel one can be found on record. It must have been produced by a paralysis of involution, for certain it is, that when that restorative process is duly performed, the

In other words, the uterus has become, as it was in its non-gravid state, a thick-walled and small-cavitied organ, the walls possessing but little flexibility, and stubbornly refusing to yield to any force that tends to indent them or to change their shape. To such an extent is this true of the unimpregnated uterus, that it is generally admitted by authors, that it cannot be inverted, by any force that can be brought to bear upon it. The late Professor Charles D. Meigs expresses his convictions very strongly on this point, when he says,* speaking of a case of chronic inversion of six month's duration—"It was inverted at the time of her confinement, six months ago. Mrs. Lucina inverted it by pulling at the cord before the placenta was detached, and either did, or did not know what she had done. The hæmorrhage was terrible. The woman ceased to bleed, and did not die, because she fainted so badly that the vascular injection by the heart was too feeble to kill her by hæmorrhage. She slowly recovered, in a measure, but bleeds still upon the smallest excess of exercise or labor. Well now, my young friend, you have made your diagnostic. What are you to do for your patient? Will you reposit or reinstate this womb? *You can't. You might as well try to invert one of the non-gravid uteri on my lecture-room table as to reposit*

uterus is contracted down to something like its non-gravid size and condition, and such contraction excludes the ovaries and intestine from its cavity and lodges them in the peritoneal pouch above. It is barely possible that, in cases of complete inversion, the pressure of the bowels upon the os uteri might prevent its firm closure and allow a slight insinuation of a knuckle of intestine a short distance within the cervix. But this, should it occur, will not add to the danger of the operation, unless the ligature should be applied to the base of the tumor, which never ought to be done. In cases of incomplete inversion, the ligature must needs be applied to the inferior part of the body of the uterus, at or just below the os uteri, and only the body is severed by the ligature, aided by the écraseur. The body is the source of all the hæmorrhagic and other exhausting discharges, and therefore only it need be extirpated. And so in complete inversion, only the body should be extirpated, and it will prove a good and safe rule of practice to apply the ligature about two inches above the fundus, which will leave the cervix intact. If this rule be observed, there can be no risk of including the inverted vagina or peritoneal pouch in the ligature.

*Letters to his Class, pp. 231 and 232.

*this one.** *The time is gone by. You have no art or skill nor no power equal to the performance of such a miracle of surgery as that.*" The miracle in the case of the inverted uterus, has, nevertheless, been performed, but with exceeding great labor, and the attempt to perform it has been frustrated in nearly one-third of the cases, while in two it proved fatal.

Now, whence all this difficulty? Dr. Thomas and others tell us that it arises from a stricture at the os internum. But when the abdomen was opened and the dilator was inserted in this so-called stricture, did it resist like a veritable stricture? Dr. Thomas answers, "the dilatation was exceedingly easy and rapid." Then we may reasonably inquire, is this the way that other strictures behave—strictures of the œsophagus, of the urethra, of a hernial sac, for examples? One of the marks of a stricture, as I understand it, is, that being overcome by the knife or a dilator, all resistance ceases and the obstruction is removed. The stricture in hernia, for instance, being cut, the strangulated intestine can easily be returned into the abdomen. After fully dilating his so-called stricture, as he says he did, did Dr. Thomas easily reposit the womb? No, but on the contrary, so great was the difficulty yet to be overcome, that he had to resort to his favorite but, I must think, violent manœuvre, and draw down the uterus once and again, the last time, outside of the body, and pushing it up again with a force that sent one of his fingers, tearing its way through the vagina, and into the space between the uterus and the bladder.

Do surgeons have to use so much force in the operation for strangulated hernia? Or after dividing the stricture, is the intestine easily replaced in the abdominal cavity? The difference in the two cases is readily ex-

*The italics are mine.

plained. The stricture being divided, in the case of hernia, the thin-walled intestine may have the gas, that inflates it, pressed out of it and its walls, being thin and yielding, it can be moulded to the aperture through which it is to pass. Not so with the uterus: it is, in a great degree, inflexible and insusceptible of being moulded. Besides, the problem for the gynæcologist to solve is, not to make an aperture through which the uterus may be pushed bodily, but to start the process of reïnversion, by first unfolding the parietal duplicature—the *os præternaturale*—and when that is done, the body and fundus follow with their outward movement, and so they resume, though slowly and stubbornly, their proper places. The difficulty, I repeat, consists not in a stricture, formed by the os internum, but in the inflexibility of the parietes of the uterus and the smallness of its cavity, and therefore if we could dilate the so-called stricture ever so widely, we shall still have the intractable walls of the uterus to deal with. There are, and, I doubt not, there ever will be cases where there is so great rigidity of these walls that nothing short of a miracle can reinvert them. This was the trouble in Dr. Emmet's case, as I regard it, and not adhesions of the broad ligament, which have never been proved to exist, and which, if they existed, could not hinder the reposition of the organ by any mode of action that I can imagine.

To express my views a little more fully here, I should say that the difficulty, amounting to impossibility, in some cases, of reïnverting the uterus, depends upon perfect involution of the organ after parturition. We know that a variety of causes may impede involution, and among them we may reasonably reckon so serious a disturbance of the uterus, as inversion must give rise to. If there be imperfect involution of the uterus, superadded to its inversion, then its parietes will be more succulent

and pliable, and its cavity larger, and its mouth more patulous, than in the normal non-gravid state. It must then be much easier to reinvert it than when its walls are compact, and its cavity small. If I am right in this opinion, I have satisfactorily accounted for the total failure of the most eminent and skillful operators to replace the inverted uterus, in the cases which I have cited.

From the considerations which have now been presented, the deduction appears to be warranted, that Dr. Thomas' substitute will not prove to be a trust-worthy supplement to manipulation, in the treatment of chronic inversion of the uterus, and that it will not, therefore, abolish the necessity of amputation in certain cases.

I shall endeavor finally, to estimate, as well as I can, what additional mortality will ensue from gastrotomy and the dilatation of the so-called stricture of the uterus, as helps to manipulation. Here we have to deal with probability only, while nothing is more certain than that there must be increased mortality, except it be true that the abdomen may be opened, and the serous membrane of the uterus irritated with impunity. All surgical writers agree that penetrating wounds of the abdomen, even though none of the viscera may be implicated, are attended with danger. The peritoneum is ever ready to take on inflammation, and this, when kindled, spreads with alarming rapidity, and is often fatal in its termination. Besides these causes of inflammation—the wound and the irritation of the uterus—there must be nearly as much handling of the parts contiguous to the uterus as in the operation of ovariotomy, unattended with complications, such as adhesions, &c. Peritonitis must, therefore, come in for its share of victims, in all operations performed within the cavity of the abdomen. Whether or not the increased rate of mortality from manipulatory treatment, caused by gastrotomy, will make the operation

more or less fatal than amputatlon of the uterus, cannot be predicted. In view of the whole drift of this discussion, I will venture, however, to assume this position: Should it be proved by experience that manipulation, surmounted by gastrotomy, is more fatal than amputation, it ought to be altogether rejected, because it is of far more consequence to save lives than wombs. Better that a score of women should lose their wombs, with the chances of saving their lives, than that one should die, when the life of that one might have been saved by a different surgical proceedure. I do not expect that Dr. Thomas will concur with me in this sentiment, because his opinion is widely different from mine, in respect to the *defeminizing* consequences of ablation of the uterus. Could I believe with him that the loss of the womb unsexes a woman, and makes her a mockery, a caricature of her former self, I should turn from so degrading an operation, as I would from the mutilating processes of the *comprachicos*, who, as Victer Hugo says, made monsters of hapless children for the amusement of the happy.

ART. II.—VERSION UPON THE FOOT AS A MEANS OF SAVING THE LIFE OF A CHILD IN CASES OF CONTRACTED PELVIS. Read before the Obstetrical Society of Berlin, by Prof. E. MARTIN. Prepared as an abstract and read before the Obstetrical Society of Louisville. By S. BRANDEIS, M.D., Louisville, Ky,

Version by the foot might in a normal as in a narrow pelvis, be indicated by a variety of circumstances, e. g., faulty position or presentation of the fœtus, irreplaceable prolapsus of the funis—hæmorrhages, and various other lesions of the mother.

When turning of the fœtus becomes necessary, because the life of the same is at hazard, on account of a contracted pelvis, then the indication seems somewhat dubi-

ous. A parturition, even if unusually slow, does not become serious, provided the head presents and other unpleasant complications are wanting, but whether the feet coming foremost (and the pelvis being contracted), the head of a fœtus can be extracted through such a contracted pelvis with sufficient rapidity to save life, has been generally doubted, for the very reason that pelvic presentations even under ordinary circumstances (the pelvis being normal) are less favorable for the safety of the child, than presentation of the head. How much more difficult will it be then to extract the head sufficiently rapidly through a contracted pelvis.

Some of the highest authorities of the art of accouchement reject the idea of version as a means of saving the life of a fœtus where there is a contracted pelvis; others of equal importance, advocate it with equal fervor. How can this dilemma be solved, or rather, how can the indications for turning upon the foot for the purposes named be defined with sufficient precision.

The question, as proposed, could only be satisfactorily answered after an extensive collection of observations; that is to say, such observations wherein the most accurate measurements of the pelvis, as well as of the fœtus, and a true and distinct history of the progress of labor are given. Such reports are very rare; superficial and incomplete reports of cases are of no value for the purpose. In fact, it seems like the time ought to be near at hand, when the report of a parturition with narrow pelvis should not be regarded as a scientific contribution, unless accurate measurements of the living and also of the post-mortem pelvis, and the proportions of the child are properly investigated. The consideration of the following questions will, in the mean time, advance the probable solution of the great problems solved.

1. *How and in what manner, when the pelvis is narrow,*

can turning upon the foot and extraction by the same, be advantageous to the chitd?

The size of the fœtal head is the same, whatever part comes first; after the opinion of some writers (among them, Simpson), the head coming last is said to shape itself more easily.

These gentlemen compare the skull to an arch which can only become smaller, by an approximation of its extremities. Simpson's comparison of the curved whalebone does not hold. These writers overlook the fact that the skull is longitudinally divided by the sagittal suture, which allows a great deal ot overlapping.

It is farther known, that when a head has to pass through a pelvis, whose antero-posterior diameter is tóo small, the presenting part of the skull is in such a manner pressed down behind and around the pubis, and the opposite part is so pressed upon by the promontory of the sacrum, that the head is greatly disfigured by its passage through this very narrow channel.

The opinion largely entertained, that the head when coming last, if pulled into the pelvis, will more easily adapt itself, than if it is pressed down during parturition, where the skull comes foremost, remains to be proved; especially with a living child; and yet this is our *punctum saliens.*

Again, on the other side, it is undeniable that when the head presents first, it may be exposed to pressure for many hours, without interfering with the life of the child; while if it comes last, it cannot be longer than five minutes passing through the pelvis, if the life of the child is to be preserved. Essentially different from the opinions above explained are the views of those who seek to find the advantage of turning and extraction by the feet in contracted pelvis, *by placing the head in a position most favorable for the peculiar case.*

Taking into consideration the fact that the fœtal head has an anterior bitemporal transverse diameter of five centimetres equal to 3 inches, and another posterior biparietal diameter of 9 centimetres, equal to $3\frac{1}{2}$ inches; furthermore, that the anterior bitemporal can be diminished by compression, while the posterior biparietal diameter cannot thus be diminished, and the advantage of a proper adjustment will become obvious.

With a conjugate measuring only eight centimetres equal to 3 inches, the posterior biparietal diameter of a a mature fœtus cannot be admitted between the promontory and pubis, without considerable pressure—much more easily can this be accompiished, when the much shorter anterior bitemporal diameter is brought into that region; while on one side of the promontory, even in a rachitic pelvis, there is generally room enough for the longer biparietal portion to pass.

It will therefore be admitted, that in a pelvis with a contracted conjugate, it is not altogether immaterial in what position the head presents; we meet frequently with cases where, in spite of powerful pains, the head may remain for a long time in the superior strait, until after an accidental or intended change, the head will rapidly descend, and parturition terminate successfully. In other cases, the head may equally as long remain in the upper strait, and when it is finally extracted on account of some threatening danger, the parietal tuberosity which was pressed against the promontory will show a contused spot which may subsequently give rise to exfoliation of the bone, and even to the death of the child.

By what means can we produce such a desirable presentation, in cases of moderate contraction of the conjugate, without lateral distorsion of the promontorium; or better, how can we provide for the case in such a manner

that the broad occiput shall be placed to the side of the promontory, and the shortest bitemporal portion of the head be carried down through the shortened conjugate?

There are three ways of accomplishing this result. 1st. *A judicious posture of the parturient.* By placing the parturient upon that side corresponding to the forehead of the child, the fundus uteri containing the pelvic extremity of the child will incline towards the same side; the occiput will, by the spine, be forced towards the opposite side, and the forehead will descend toward the centre of the pelvis.

This treatment can only find application in cases where imminent danger to mother or child exists. 2d. Another mode of relieving the impacted head through a shortened conjugate, (the transverse diameter being sufficiently long) is, occasionally by the use of the forceps. While applying the blades, we will often observe an obvious change in the position of the head which will become so much more conspicuous, if proper traction and turning around its longitudinal axis is practiced. Under these circumstances, it may happen that even with a moderately contracted conjugate, and some anteversion of the uterus, a head which in spite of powerful expulsive pains was arrested above the superior strait, may comparatively easily be extracted with the forceps; while the manifest contusion on the respective parietal bone places beyond doubt the existence of some disproportion of space.

The application of the forceps, under the circumstances just enumerated, will be indicated, if signs of existing pressure become manifest; the water passed off long since and version consequently impracticable. The operator will have to be prepared to resort to kepholotripsy, should the efforts with the forceps fail. 3d. *Version.* This operation offers a great probability of extracting a

head safely through a pelvis with a moderately shortened conjugate, provided the promontory is not laterally displaced, and the transverse diameter long enough to allow the occiput to pass on the side of the promontory; that is to say, to place the head in such diametrical relations with the pelvis, that the shorter bitemporal diameter comes within the shortened conjugate, while the larger biparietal diameter is placed in the roomy space on one side of the promontory.

Prof. Martin has many cases to show that extraction of the head coming last, in the mode just presented to the reader, if assisted by artificial pressure from above, through a pelvis contracted in the conjugate without displacement of the promontory will secure living children, but with a distinct impression upon that portion which was adjacent to the promontory i. e. upon the parietal bone. These impressions or depressions of the respective parietal bone were always to be found upon its anterior portion, more or less near the coronary suture. In some of these cases symptoms of extravasation upon the meninges followed, (such as twitching of the facial muscles), which (upon the application of a few leeches) were removed; some of the children subsequently perished, particularly when the impression was complicated with fracture. Martin holds the opinion, that in the case of moderate contraction of the conjugate, turning upon the foot can be used as a means to save the life of the child, provided the transverse diameter is sufficiently large, to allow the thick occiput to pass by one side of the promontory. In such cases of moderate shortening of the conjugate in which signs of imminent danger to mother or child do not yet exist, we possess a much easier and safer mode, in the proper posture of the parturient, to bring the presenting head in a favorable position; consequently turning upon the foot which is always a very

serious interference, will only be resorted to, when the accoucheur becomes satisfied of the uselessness of the former; and even then it may be conceded that a careful effort with the forceps may precede the operation. A uniformly contracted pelvis, even if only moderately contracted does not permit such a proceeding; consequently the most sanguine advocates of turning upon the foot do not recognize this operation as one apt to save the life of the child.

Essentially different from the pelvis just considered, are those cases in which the contraction is complicated with an unnatural displacement of the promontory and pressure of the acetabulum inwards and backwards in consequence of rachitis, or where anchylosis exists of the sacro-iliac synchondrosis.

In such cases, we observe, that women with even a considerable contraction of one-half of the pelvis will at one time bear a child with ease and rapidity, because the large occiput passes through the large and roomy portion of the pelvis, while at other times, when the large occiput happens to present on the narrow portion of the pelvis,the accouchement will be an unusually difficult one, and probably necessitate craniotomy. In these unfavorable presentations of the occiput upon the contracted portion of the pelvis, it will happen in some very rare cases, that a change is established in the position of the fœtus, so that the face will gradually occupy the place where the skull was previously. Martin has observed this phenomenon twice upon the same farmer's wife, but we could scarcely be justified in waiting for this occurrence of nature's own efforts. Version upon the feet is absolutely required whenever the occiput is lodged over the narrow portion of an assymetrical pelvis, in order to carry the occiput over to the wider portion of the same; but the conjugate should not be below 3 inches.

Martin has put down the indications for version in the following words. In all cases of unfavorable positions of the head, where it becomes necessary to introduce the hand in such a manner as to bring the head with its anterior shorter diameter into the shortened conjugate, the forehead into the narrow, and the occiput into the wider portion of the pelvis, (provided that this could not be accomplished by the more gentle posture treatment) version upon the foot is indicated, in order to save the life of the child; certain proofs of the child's viability being present.

After having in this manner established the exact indication for version upon the foot, in contracted pelvis, Martin tries to answer the second question: *Can those cases, as designated above, be recognized in the living subject?* He rejects all such results, as are obtained by measurements on papier maché pelves, or others connected with wire, or those with dried ligaments, for the reason that they differ very much from the results obtained by measurement of the living pelvis, or those which are recently taken from the dead. He does not overlook the mistakes to which even the latter are liable, as want of skill, the difficulty in finding the point when covered with soft tissue and integuments, and the proper or undue degree of pressure of the ends of the instrument. He admits that results obtained from external measurement, or those from them easurement of the diagonal conjugate or the conjugate vera, are only approximately correct.

In fifty-two measurements of living and recently dead subjects, he calculated the average difference between the diagonal conjugate and the conjugate vera to be 21.2 millimeters, while in another set of forty-nine cases, it amounted to 85 millimeters. He corroborates the old opinion, that neither external nor internal measurement permits an absolute and exact insight into the propor-

tions of the pelvic inlet in the concrete case; at the same time, appreciating its value upon the required understanding for a judicious conduct of labor. A precise knowledge of the diametrical proportions must remain unavailable, as long as a like accurate measurement of the fœtal head is wanting. A mathematical positiveness in the establishment of therapeutical rules will not be possible. A close and careful investigation of the diagonal diameter, as obtained from the superior posterior spine of the ilium on one side, to the superior anterior spine of the ilium on the opposite side, gives the best clue for the estimation of the internal corresponding lines.

The third question suggested by Martiu is: Is it possible, in version, upon the foot and subsequent extraction of the fœtus at the pelvic extremity to determine exactly on what side of the pelvis the occiput and respectively the forehead shall be passing.

It is an old and admitted fact, that in imperfect footing presentation, the presenting extended foot, will alway appear behind the pubis, accordingly if one pulls down the right foot, the back of the child and consequently the occiput must come down on the right side of the pelvis, and vice-versa. Whether the occiput will remain and descend on the same side, merely depends upon the way the arms are brought out; awkward management can do a great deal of harm.

If we have a clear comprehension as to the particular shape of the pelvis, with which we have to deal, it will be easy to conduct the head and turn the same around the perpendicular axis with a couple of fingers placed carefully upon the face, while another hand is exercising pressure upon the occiput exteriorly.

ART. III.—RUDE INVASION OF THE SPINAL CORD WITHOUT LOSS OF SENSATION OR MOTION. By D. A. SMITH, M.D., of Butler, Georgia.

The main facts of the remarkable history of the negro, Smart Bass, may be of some interest to you, and I will, as briefly as possible, state them; beginning from a period of a few weeks before he was hung.

Mr. Jake Cozatt, conductor on a passenger train of the Southwestern railroad, finding in the possession of the negro Smart, a watch, answering the description of one stolen from and advertised by a Mr. Mitchell, of Alabama, arrested Smart near Butler, Ga. After divesting him of all arms, as he thought, he gave him some privileges which Smart immediately took advantage of by drawing a pistol from his boot-leg and firing, which of course instantly showed Mr. Cozatt the advantage gained by Smart in consequence of his (Cozatt's) failure to make a close search of his person. The conductor, with two men, then seized the negro immediately, but were shaken off by him, the negro exhibiting a physical strength rarely met with. Whilst retreating he was pursued by Mr. Cozatt, (Mr. C. and the negro being now out of the car and on the ground, the train having arrived at Butler and the negro endeavoring to escape) when Smart turning, fired a shot, which penetrated the heart of Mr. Cozatt and caused instant death. The negro then escaped at Butler, but was subsequently surprised at Montezuma, Ga., by Mr. Bruntly. An attempt was then made to arrest him, but after the exchange of several shots, the negro again escaped. He was tracked the day after for the distance of six miles, by the blood which he left on the ground; he having received a severe wound in his ankle the day before.

Having been thus tracked and discovered, he was, with

comparatively little trouble arrested, secured and returned to Butler, the scene of the atrocious crime which he had committed but a few days before, where he was brought before a Court of Inquiry and committed to jail to await his trial. There being no jail in Butler, he was sent to the city of Macon, Ga., for safe keeping.

Believing that another opportunity for escape had presented itself while he was confined in Macon, he made the attempt, and in it was severely stabbed by the jailor; the knife entering the seventh dorsal vertebra, and breaking off, lett 1¼ inches firmly imbedded in the spine, This occurred on the 10th day of September, I867.

Very soon after this, say 9th day of October, I867, he was brought back to Butler, where he was tried, convicted and sentenced to be hung on the 22d day of November, 1867.

During the trial the negro exhibited many signs of exhaustion, the true cause not being known at the time, as there was then some doubt about the fact of the knife blade having been left in the back; the truth of this was afterwards ascertained, and the exhaustion was found to have originated from the wound.

Willing his soul to God, he gave his "carcass," as he termed it, to Dr. Edwards and myself for dissection.

To ascertain fully, the immediate parts affected, the spine was carefully examined and we found, immediately over the region of the seventh dorsal *vertebra* a fast healing sore, which did not extend deeper than the cutis *vera*. The muscles immediately under the surface and above the wounded *vertebra* bore no signs of hurt, as they had completely healed. Upon further examination, the imbedded blade was found, as you see it in the *vertebra*. His activity, strength and good health, were well maintained after the wound was inflicted, which was rather remarkable, taking into consideration the magnitude of the injury. I append a synopsis of the facts:

Smart Bass' age was about 35 years. Was stabbed on the 10th day of September, 1867, and was executed on the 22d of November; he was, therefore, executed two months after the stabbing. The cord was not injured, but pressed out of its natural course. The vertebra was only injured (as you see) where the blade passed through and it was nicely healed over at the post-mortem. There was some fever, both local and general, immediately after the reception of the wound, for three weeks, so I am informed; I did not see him during that period. The appearance of the cord was natural, only pressed out of its natural course, as you can readily see. There was some loss of motion, for a short time, immediately after reception of wound; the loss of sensibility was scarcely perceptible; neither continued over five days. During the trial, when the attorney (Col. W. S. Wallace), who was against him, was speaking, the negro would stoop down, crawl down, moan and grunt terribly, as though he was nearly gone, and when Col. Hill got up to plead for him, he would raise his head a little; and still a little higher, until he would get up and seem pert and all right.

NOTE.—This remarkable and most valuable specimen is now in the possession of the editor of this Journal. An excellent photograph of it has been taken and from this the annexed woodcut was prepared.

This cut is accurate and gives an excellent illustration ot the extent of the injury and of the degree of invasion of the cord.—[ED.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—PATHOLOGY AND TREATMENT OF HÆMORRHOIDS. By Prof. N. R. SMITH, M.D., Baltimore, Md.

The history and treatment of hæmorrhoids does not, it is true, furnish much opportunity for heroic surgery, but should be a subject of great interest to the general practitioner, because of their frequent occurrence, their occasional intractable character, and the formidable sequelæ in which they sometimes result.

Hæmorrhoids are small tumors engorged with blood, situated in the rectum, just within the anus, on its verge, or exterior to it.

The term is appropriate, though some of them become ultimately bloodless and hard. Generally there is more or less blood discharged from them, usually at stool; but sometimes, though much engorged, they do not bleed, and are vulgarly termed "blind piles."

There are manifest anatomical reasons why bloody tumors should be more common at the lower extremity of the rectum than in other regions of the body. In the first place, the part is dependent, and blood gravitates to that region as it does to the spermatic cord and to the veins of the inferior extremities. This gravitation is increased by the expulsive efforts at stool, urging the blood into the part, The mass of fæces in the lower bowels, before expulsion, retards the return of blood from the part.

The portal veins, which, in part, return the blood from this region, are without valves, and hence liable to become engorged and varicose. The rugæ into which the mucous membrane of the bowel is folded, yield to the engorged vessels and favor the development of hæmorrhoids.

The sphincter muscle, acting sometimes spasmodically, constricts, and often strangulates hæmorrhoids when they are protruded.

According to my observation there are three varieties of hæmorrhoids: 1st, the Erectile; 2d, the Varicose; 3d, the Condylomatous.

The first variety, or the Erectile, are by far the most frequent. The causes of this form of hæmorrhoids are, in part, the anatomical circumstances alluded to above. Age is concerned in the causation of the different forms of hæmorrhoids. The erectile variety is more common in early life (not, however, in children) in persons plethoric, and of sanguine temperaments. Neglect of exercise, occupations involving the necessity of standing, or sitting many hours of the day or night, promote their formation.

But, of all the immediate causes of this variety, constipation of the bowels is undoubtedly the most efficient. It operates in three ways. The indurated contents loading the bowel mechanically retard the return of blood. Such fæces are also expelled with effort and difficulty, by which the vessels of the part are strongly injected with blood; and, lastly, the hardened fæces rasp and irritate the vascular membrane.

Such articles of food as promote the formation of hard and rough fæces, as well as indulgence in the use of an excessive quantity of strong food, are among the causes, as inducing plethora and fullness of the bowel.

Some of the remedies employed to obviate constipation are also among the causes. Aloetic and other resinous purgatives, and the unskillful use of the injection pipe, provoke their formation.

Parturient women are subject to hæmorrhoids, manifestly caused by the pressure of the fœtus on the hæmorrhoidal vessels.

The erectile variety of hæmorrhoids, which is by far the most common, commences with a sense of fullness just within the verge of the anus, and with the consciousness of the presence of a foreign substance which can not be expelled, and which is aggravated by ineffectual efforts. There is sometimes pain, and a few drops of blood are often discharged. When the effort at defecation is over, there can be felt and seen a small red tumor, of the size of a pea, protruding from the anus. In a few minutes this recedes and disappears, especially if water is used.

From day to day this protrusion increases, and other small tumors are added. Their return becomes more difficult, and is followed with less complete relief. The patient has to press them in with his fingers, and he renders this more easy by assuming the recumbent posture.

They now bleed more or less at each stool, florid blood

spirting from them in a fine stream. The bleeding generally reduces the engorgement for the time, and renders their reduction easier. Sometimes they bleed internally, and a quantity of fluid or coagulated blood is expelled at each stool, rendering it a little difficult to distinguish the malady from hæmorrhage of the bowels.

This variety, however, does not always bleed, even though greatly engorged and inflamed. They are then vulgarly termed "blind piles," and are even more painful and difficult to return than when they bleed. They now protrude in clusters, like a bunch of grapes, and become tensely constricted hy the sphincter, the action of which is rendered more persistent by the spasm which is excited in it. The return of them now is difficult and painful, yet the patient often learns the art of returning them more promptly than can the surgeon. There are cases, however, in which their return and retention become for the time impossiblc. Sometimes, when pressed up with difficulty, an irresistible expulsive effort is excited, and they are forced out again the moment the pressure is removed.

Sometimes the constriction by the excited sphincter becomes so great that the hæmorrhoids are actually strangulated, beeomes livid and insensible, and finally slough off. I have witnessed this result in several instances, and have not seen any disastrous consequences to follow. This may be regarded as nature's occasional method of curing the disease, aud is analogous to the action of the ligature of the surgeon.

When they thus slough off, an ulcer is of course left, and this is replaced by a cicatrix which contracts rigidly, and not only obviates the further production of hæmorrhoids, but sometimes causes a stricture of the anus difficult to overcome.

It is by no means uncommon for the urinary organs to become disordered in their functions, partly by pressure, but more especially by participating in the irritation.

Retention of urine is often the result, with the necessity of using the catheter. The fullness of the bladder often aggravates the hæmorrhoids.

If these tumors continue for a few days, it is not uncommon for them to assume a livid appearance and firmness to the touch. This is attributable to the formation of a firm dark clot in the centre of one or more of the tumors. If they are lanced at this period, a dark clot,

pear-shaped in form, and of the size of a pea or larger, is discharged. If this be not done, the clot may ultimately be absorbed, or may cause the tumor to assume the indolent and non-vascular condylomatous form.

On dissection, this variety of hæmorrhoids is found to be composed of a vascular tissue, exccedingly like the erectile tissue of the corpus spongiosum. It is for this reason that I have followed the example of some others in terming them "Erectile." They often, however, contain some dilated veins, and these, perhaps, furnish the cells in which the coagula, already spoken of, are formed.

The second variety of hæmorrhoids I term the Varicose, because they are composed of dilated veins, with very little solid tissue. They much more frequently occur to aged persons than to others. These tumors present a dark and livid appearance, and are very elastic and compressible. To the touch they feel, as might be expected, like varicose veins of the cord or lower extremity. They are completely emptied by pressure, but instantly refill. These rarely become inflamed or irritable. They discharge blood more freely at stool than the other varieties, that fluid, of venous character, pouring from them sometimes in a copious stream, as the expulsive effort is made. When they are compressed, or the blood recedes from them, as the patient assumes the recumbent posture, the tumors disappear.

This form of the disease is almost exclusively incident to persons advanced in life, as is the varix in other regions of the body. In old persons the veins, compared with the arteries are large, contain more blood, and transmit it more sluggishly.

Sometimes the blood coagulates in these tumors, and thus is brought about a spontaneous cure, or they become condylomatous.

This form of the disease is often dependent in part upon a diseased condition of the liver. By the repeated and copious discharges of blood which take place, they often seriously, or fatally, affect the constitution, as do other hæmorrhages. Anæmia and dropsy may be the result.

The third variety of hæmorrhoids is the Condylomatous or Warty. They are the sequels of the two other varieties, more especially of the first.

When the erectile tumors remain long engorged—often inflamed and, perhaps, stuffed with coagula—their con-

tents become organized, indolent, non-vascular, and hard. They are then solid to the touch, pale and insensible. But, although no longer sensitive in themselves, yet, by the mechanical irritation which they cause in parts around, they keep up disease and provoke the formation of other erectile and sensitive tumors. They are pale and, if you pierce them, discharge no blood.

The diagnosis of hæmorrhoids is ordinarily not difficult, and yet mistakes are sometimes made. We must never allow ourselves to be influenced by what the patient may pronounce in regard to his disease. All maladies of the anal region are apt to be regarded by them as piles, and they come to us for something to relieve them. A patient applied to me a few days ago "to be cured of piles." He had sanious discharges, and mechanical impediment. He had taken remedies for piles from other physicians. I found, on examination, that he had cancer of the rectum.

Fistula, even when external, is sometimes mistaken for piles. When the fistulous orifice is within the rectum, the error is not surprising. The truth, however, is easily ascertained by the use of the finger and the speculum, and by the history of the case.

Fissure of the anus is often mistaken for hæmorrhoids. I have known this malady to be treated for months as hæmorrhoids. There is, indeed, usually a small tumor on the margin of the fissure, which contributes to the irritation that characterizes that disease. The extreme tension of the sphincter, the very great and persistent pain which follows an evacuation, without protrusion, will enable the practitioner to distinguish.

In the treatment of hæmorrhoids, let us first consider that of the erectile variety. If the disease is recent, and the causes manifest, there is but little difficulty. Commence with the administration of a saline aperient. Then, every other day, give sulphur, a heaping teaspoonful, in syrup or milk. Should this be inactive, give the following: ℞—Sulphur, lot, ℥j; Fol. Sennæ pulv, ℥j; Ol. Fœnic, gtts. xx. *M.* and f. pulv. *S.*—Give a heaping teaspoonful every other night.

The parts must be bathed, three or four times a day, with cold water, and especially after stool.

As the indulgence of the appetite in every variety of rich and unwholesome food will have been in most cases the principal cause, the patient must be restricted to a simple diet.

Let him take animal food but once a day, in small quantity, and without condiments. Boiled onions as an article of food are productive of soft and easy passages. Stewed fruits may be used as dessert.

The patient may exercise moderately on foot, but when at rest had better assume the recumbent, rather than the sitting, posture.

This treatment will be very sure to relieve incipient cases; but, if not apply the following unguent: ℞.—Ung. Cetacei, ʒ ss; Pulv. Gallæ, Pulv. opii, āā ʒ ss. *M. S.*—Apply externally, and introduce within the sphincter a small quantity twice a day.

The following suppositories are very efficient. ℞—Butyr. Cacao. Q. S.; Tannin, ʒ ss., Opii, ϑ ss. *M.*—d. and f. Suppos, X. *S.*—Insert one, morning and night, completely within the sphincter.

But, in those cases in which the disease has persisted for some time, the tumors, large, inflamed and irritable, disposed to protrude with spasmodic force, and are returned with difficulty, more active measures are required. If the bowels are costive a saline aperient must be given, and an emollient enema, to secure its prompt action.

If the tumors are protruded and strangulated, causing great distress, they must be at once returned, without waiting for the action of medicine. To effect this, apply for a few moments cold water or crushed ice, to repel the blood with which they are engorged. Then, compressing the whole mass with the fingers of both hands, if necessary, press them up within the sphincter. To resist the expulsive efforts which will be provoked, keep up pressure for a few minutes on the anus with the fingers, or better, with a small sponge dipped in ice water. This pressure I have sometimes kept up for hours, with a perineal bandage attached before and behind to a split bandage passed over the shoulders. The use of chloroform will sometimes greatly facilitate the reduction.

When the parts are highly inflamed and productive of symptomatic fever, free venesection is demanded. Leeches may also be applied to the verge of the anus, in aid of the lancet. Freezing the part by the spraying apparatus is recommended by some, but I have never employed it.

There are many astringent applications which are employed by surgeons in these cases, either in the form of lotion or unguent, such as the Acetat. Plumb., Acid Gallic, the Persulph. Ferri, &c.

In most cases of recent origin, the above means will effect a cure, and prudent living will obviate a return.

Sometimes the return of the tumors is rendered impossible, and their irritable condition is kept up by the presence of coagula which they contain, as described above. This is known by the hardness and livid color of the tumor, and the impossibility of its being returned.

In these cases the tumor should be freely lanced and the coagulum discharged. While I have been writing this article, I have been called to a lady suffering from disease of this form. I passed a keen lancet through the tumor, and there was immediately discharged a black coagulum as large as the end of one's finger. I have never known serious hæmorrhage to result from such incision.

The above means employed in the treatment of hæmorrhoids are curative if employed early, but are only palliative when the disease has become chronic and a permanent hypertrophy has become established. Other means, then, must be employed to effect a permanent and radical cure. The tumors must be, by some means, removed.

Excision is the expedient that first presents itself. But for one circumstance, the danger of hæmorrhage, this would be the shortest and most effectual expedient. This has been in times past much practiced, and often with success. But the occurrence of many fatal cases of bleeding has deterred the modern practitioner. Sir Astley Cooper's cases are well known to the profession, and, were all surgeons as candid, we should have many more such beacon lights. Were the bleeding part so located as to be accessible to our remedies, there would be no risk: but, when a hæmorrhoidal tumor has been cut away with the knife, the wounded surface retires within the sphincter, and is reached with great difficulty. Blood flows into the rectum. After a time the patient is seized with tormina, and a copious discharge of fluid and coagulated blood takes place, causing prostration and faintness. After an hour or two this is repeated, and fatal consequences not unfrequently follow.

Dupuytren often excised them, but immediately applied the actual cautery. He spoke lightly of the danger and of the pain and inflammation caused by the cautery.

The necessity of resorting to such an expedient is a sufficient objection to the operation.

The ligature is the next expedient to be considered. In this mode of extirpation it is not necessary to ligate singly the whole cluster of tumors. It is scarcely if ever necessary to include more than two or three of the largest. The bowels should first be emptied by a cathartic, and, when the expulsive effort has forced out and rendered prominent the tumors, the threads are to be applied. They may be composed of silk or linen. The tumors generally having an obscure neck, there is commonly no difficulty in applying the thread, but sometimes it is necessary to seize and draw them out with forceps. When the tumors are large and fleshy it is better to arm a curved needle with a double ligature, and transfixing the base of the tumor, to draw the threads half through, and then, dividing them at the eye of the needle, to tie one thread on one side and the other on the opposite. A slip knot should be employed, that the ligatures may be withdrawn in case of intense irritation. During the operation the patient may be under the influence of chloroform.

In case of high irritation the ligatures may be removed, but if they have been properly applied, and they have been on for three or four hours, the tumors will have their vitality destroyed, and will slough.

The double canula, with silver wire, as used by Prof. Physick, is, in my opinion, the best apparatus for the ligation of hæmorrhoids. The noose must be drawn tightly, and allowed to remain for from four to six hours, and then disengaged. At best, however, the ligature is a severe and painful remedy, and not unfrequently followed by intense intestinal irritation and inflammation, sometimes by symptoms of strangulated hernia. Some years past I lost two patients after the application of the ligature, by inflammation of an erysipelatous character, propagated along the intestine.

I have, not long since, practiced the following expedient in cases of old and fleshy hæmorrhoids. I have saturated a loose thread with liquor potassæ, and arming one extremity with a needle, have transfixed the base of the tumor and slowly drawn it through. This I repeated transversely. The circulation in the pile was thereby destroyed, and the tumor perished.

The ècraseur is much employed in the extirpation of hæmorrhoids by the French surgeons, and to some extent by the English and American. It is claimed that

t is not followed by hæmorrhage, and that the lacerated characted of the wound is not adverse to the healing process. Such is not my opinion. I have recently witnessed the amputation of the penis by Dr. A. P. Smith, in which that instrument was employed according to the most approved method, and yet I never before witnessed so much hæmorrhage from the amputation of that organ. Many ligatures were required to arrest it.

The most efficient of the curative means employed in the treatment of this malady, is Nitric Acid, used as a caustic, first employed by Dr. Houston. It is applied pure, and by means of a smooth stick, or a glass rod. If the parts are very sensitive, the surgeon should at first touch only the external and most prominent. On the next occasion, that is after two or three days, he touches the remainder, applying it till he sees the mucous membrane became whitened. In bad cases, other applications may be necessary.

The effect of this caustic is to destroy the mucous surface to greater or less extent. This exfoliates, and a cicatrix results which, contracting as all scars do, diminishes the extent of the mucous surface, compresses the subjacent vascular tissue, and thus obliterates the disease.

The application of the acid, though sometimes severe, is productive of less pain than might be expected. I have applied it from day to day on persons who have kept about their ordinary avocations. Generally, it is better to confine the patient to the recumbent posture for two or three days, and to soothe the part with anodyne cataplasms. This use of the acid is very generally superseding the ligature.

The second variety of hæmorrhoids, the varicose, which I have described above, must be more cautiously dealt with. Excision is not to be thought of, nor would the ligature be less perilous than it is to varicose veins in other region sof the body. Astringent applications may be employed with safety, and will palliate and arrest, if not cure. The best of these are tannin, gallic acid, and the persulphate of iron. In bad cases the nitric acid may be cautiously employed.

Pressure will be found extremely useful, effected by a compress, kept applied by means of an elastic perineal bandage attached to the two extremities of á scapulary bandage, passed over the shoulders like suspenders.

A wooden tampon, or plug, makes very efficient pres-

sure. It should be of the size and form of a man's thumb, though a little more bulbous toward the extremity. It may be macerated for a time in dilute liquor of the Persulph. Ferri before being introduced. Of course it can be worn only for two or three hours at a time.

As to the treatment of the condylomatous variety but little need be said. They are insensible and bloodless, but require removal, as they inflict irritation and provoke the formation of other tumors. They may be safely removed with scissors or the knife.

It is the belief of many surgeons that hæmorrhoids often result in fistula. In a practice of fifty years I have never witnessed such a result.—[*Balt. Med. Jour.*

ART. II.—THE SNEEZING SPASM AND ITS RELATIONS TO HEMICRANIA, BRONCHIAL ASTHMA, AND HAY-FEVER. By Dr. RUD. H. FERBER, of Hamburg. (Archiv der Heilkunde, 6 Heft, September, 1869. Reported in Med.-Chir. Bundschaw, October, 1869. Wier.) Translated by Dr. Epstein, 40 Everett street, Cincinnati,

I would, assume the following pathogenesis for the cases of sneezing spasm, nervous asthma, hemicrania, and hay-fever. Through hereditary gout or mechanical causes, there ensues an anomalous dilatation of the veins in the lower part of the pelvis, especially around the rectum, and in the neighborhood of the internal generative organs in the female. Under such circumstances the venous current will meet with greater hindrances in its progress, than it does under ordinary circumstances of normal sized veins. The current will become slower and slower, and an over-filled state of the venous system must ensue. The peripheral regions of the body (skin, mucous membranes, e. g. the schneiderian) will become saturated with blood, the sensitive nervous fibres will suffer some lesion under such circumstances in those regions, and this will give rise to reflex action, perhaps in the province of the vagus. The pulmonary alveoli and the bronchial mucous membranes will also in this case be over-filled with blood, and then a direct action may perhaps take place on the sensitive fibres of the same nerve.

With this assumption, of seeking the chief source of the maladies in question in an irregularity of the circulation, agrees the experience, that these maladies are es-

sentially aggravated by any circumstance under which the blood current, or the activity of the heat may happen to suffer. In this category belong lively bodily exercises, violent emotions, excesses in venere et baccho, and general errors of diet. Atmospheric states also (especially that of temperature), have a considerable influence upon the circulation, and that, very likely, in consequence of the influence of heat and cold upon the periphery of the body. Too warm or too cold baths have a similar influence. In sleep the circulation differs from that in waking; hence those patients whose circulation is in any way disturbed, suffer during the transition from sleep to wakening. I will again revert to this, further on.

The therapeutics of the affections under consideration, are as yet, little successful. It is said, that an emetic may remedy an attack of sneezing spasms. In France, the inhalation of iodine vapors are recommended. Hemholtz, who discovered vibriones in the nasal secretion, during an attack of hay-fever, eelieved his sufferings by snuffing up a solution of quinine.

In treating a patient, the primary cause of whose affection lies in an anomaly of his circulation, in the man-ner alluded to above, we would advise for him the avoidance of all those circumstances, which tend to produce a retardation of the circulation and the engorgement of the venous system. We would advise to such cases a strict diet, and especially prohibit all drinks containing carbonic acid, which has been abused so much in later times, even in diseases. Baths also, and cold ablutions, should be used very cautiously by such patients, since these are a powerful means of over-filling the blood vessels of the periphery of the body, and hence a special cause of overfilling the venous system. Such an evenly distributed influence over the entire surface of the body, may, however, be less injurious than an habitual ablution of only certain parts of it. This point deserves certainly more attention.—[*Ex.*

ART. III.—THE CLIMATE WHICH CURES CONSUMPTION.

Our readers are acquainted with the recommendations which have been bestowed both on the Cordilleras of the Andes and on the plateaux of Mexico, for the cure of

phthisis pulmonalis. In speaking of the last-named locality, Dr. Jourdanet strongly insists that this beneficial effect is altogether, or in greater part, due to elevation in soil, and not to the degree of latitude. Dr. Smith, whose experience was gathered from Peru, expresses himself as follows: "Incipient tubercular phthisis, with more or less hæmoptysis, is one of the most common pulmonary affections known in Lima and other parts of the coast of Peru. * * It is a disease that is certainly cured by removing the patient from the coast to the open inland valley of Zanja, which runs from ten to twelve thousand feet above the sea level. * * * This fact has been known and acted upon from time immemorial by the native inhabitants and physicians; and I have," says Dr. Smith, "sent patients from the capital to Zanja, in a very advanced state of phthisis, with open ulcerations and well-marked caverns in the lungs, and have seen them again, after the lapse of a little time, return to their home, free from fever, and with every appearance of the disease being arrested; but in many instances, it would, after a a protracted residence on the coast, again become necessary to return to the mountains, to prevent a recurrence of the disease." Dr. Scrivener expresses himself in the following terms: "I have traversed these mountains on many occasions, and am therefore able to form an opinion of the salubrity of the climate, as also of that on the route from the Province of Cordova to the Pacific. All over this vast tract of land, that fatal enemy to man, the the tubercular phthisis, so justly feared by the inhabitants of Lima and Buenos Ayres, is entirely unknown. During a residence of nearly ten years in different and widely spread districts of the whole country, I never saw nor heard, directly or indirectly, through my intercourse with others, of the existence of that disease. In the mountains of Cordova, as well as on the Andine heights, the patient will find his disease alleviated and in time removed (let him come from what quarter of the globe he may), by the hand of nature. There, pulmonary complaints are never known to originate, and there, those who suffer from it, on the borders of the Parana and the river Plate, seek and find a permanent cure for their ailments, proceeding from all affections of the lungs. We would recommend," he further says, "the mountains of Cordova, to consumptive patients, in preference to the Andine heights of Bolivia, as being nearest the river

Plate, and containing a greater variety of objects to divert the attention and amuse. The facility of transport, the shortness of the passage, combined with a well-founded hope of renovating the health, will be of themselves sufficient reasons for undertaking the journey. The mountains of Cordova are 4000 feet above the sea and about 800 miles from La Quiaca, the northern boundary of the Argentine Confederation, where commences the Bolivian territory; and here the Cordilleras of the Andes, or otherwise the Andine heights, are seen in all their splendor and magnificence. Between the two territories, however, the journey is made by mules; there is no carriage road.

It behooves us next to inquire how far and with what facility the heights of Cordova are accessible to patients proceeding thither from Europe. Let us suppose all of war at an end, the distant echoes of which are now heard brokenly on the road, and the journey already adventured on. The passage from England to Buenos Ayres may be made in as short a period as 34 days. There are several lines of merchant steamers from London and Liverpool, as well as the Government vessels from Southampton and Bordeaux, which arrive at Buenos Ayres every month. From this port you embark in a steamer for the port of Rosairo, which is most beautifully situated on the banks of the river Parana, and is the finest port in the Argentine Confederation, at which you arrive in about 26 hours. From thence you take the Argentine Central railway, and arrive at the city of Cordova upon the same day. Here commence the serraicas or mountainous districts, which extend to the valley of Rimac, comprising an area of about 1000 leagues. We believe," says our author, "that at no distant time a public establishment will be founded in the mountains of Cordova, for the use of consumptive patients. Should this be the case, we can vouch that there will be no lack of visitors willing to support the establishment and anxious to aid it by their means, in exchange for the benefits they have received there. The natural grandeur and magnificence of the mountain scenery would also contribute in no small degree to the attractions of the place and the benefit of the invalids. The city of Cordova is situated in a deep valley, on the banks of a river, amidst the most varied and beautiful scenery. Ascending from the city to the mountains, the traveler finds every variety of cli-

mate, with a difference of temperature at every ascent. In these varieties of temperature he will be certain to find one that is suitable to his complaint and agreeable to himself. The tops and sides of the mountains are covered with trees and shrubs, and the soil of the valleys is rich and very fertile, producing Indian corn, wheat, barley, sundry fruits and vegetables, and whatever the husbandman may desire to cultivate. Cattle, horses, mules, with sheep, roam in great herds on most excellent pasture. Huarracos and other wild animals inhabit the mountains. The wool of the sheep is of superior quality, and highly prized in European markets. There are a great variety of trees in the plains, many of which are lofty, and their branches form an agreeable shade, as well as add to the beauty of the scenery. The timber of these trees is of superior quality, well suited for the construction of houses and the manufacture of furuiture, etc. There are mines of gold, silver, copper and iron; the latter is abundant and in good quality. There are also marble quarries, and the marble is very fine and of different colors; limestone of an extremely white nature is abundant—in short, there are few spots in the world where Nature has lavished such a variety of animals, vegetables and mineral productions as in the Province of Cordova.—*Med. and Surg. Reporter.*

ARTICLE IV.—ON THE IDENTITY OF THE WHITE CORPUSCLES OF THE BLOOD, WITH THE SALIVARY PUS, AND MUCOUS CORPUSCLES. By JOSEPH RICHARDSON, M.D.

The nature of the nucleated corpuscles so abundant in the saliva has long been a subject of some uncertainty, although they have probably, as favorite tests for the higher powers, been more frequently examined by microscopists than almost any other constituent of the glandular secretions. Observers seem to have been generally content to accept them simply as useful measures for the capacity of the higher objectives, and passed on without any attempts to solve the mystery of their origin; Kölliker, indeed, advanced the theory that they were essentially a form of exudation corpuscles, but hitherto, his hypothesis does not appear to have been generally accepted by microscopists as a fixed fact.

The following experiments, undertaken to elucidate

their constitution, were performed with the large Powell and Lealand's intrument, so long a denizen of the "Microscope Room," in the Pennsylvania Hospital, and no doubt endeared by constant association to many generations of "Residents," as well as to myself. When it was discarded by the institution, I became the purchaser, and after undergoing some repairs, and having adapted it to a 1.25th inch objective (made by Mr. William Wale, of Fort Lee, N. J.,) it has accomplished the work below described.

The salivary corpuscles examined under a power of eleven hundred diameters present the appearance of perfect spheres, varying from the 1.1400th to the 1.2500th of an inch in diameter, each having a very transparent but beautifully defined cell-wall of exceeding tenuity, which encloses from one to four almost equally transparent nuclei of a circular or oval form, whose diameters range from 1.3000th to 1.4000th of an inch. These nuclei are situated sometimes centrally, but more commonly near one side of the corpuscle, and the cavity between the margin and the cell-wall is generally filled with from twenty-five to fifty molecules, not more than 1.20000th of an inch in diameter, whose characteristic is that of rapid and constant motion. Some of these molecules seem to be elongated into an oval or hour-glass form, but the activity of their movements renders it difficult to ascertain this with precision. In my observations these corpuscles have appeared to enlarge and become flattened, from the pressure of the glass cover, as the stratum of liquid beneath became thinner from marginal desiccation, so that usually in the course of an hour or so they burst, and discharge about one-fourth their contents, when two, three or more of the molecules swim away, continuing their revolving movements until they pass out of view, the other granules outside and those remaining within the cell become within a very few seconds entirely stationary. If a solution of aniline red, of the strength of one grain to the ounce of distilled water, be allowed to penetrate at the margin of the cover, the nuclei of the salivary corpuscle are readily stained of a bright crimson, and are thus exhibited with beautiful distinctness; the dye appears, however, to exert an immediate influence upon the movement of the molecules, as I have rarely been able to find cells in which they continued to move after the nuclei became at all colored.

In examining some urine, obtained on the 8th of August, 1869, near my late residence, in Western New York, from a patient who complained of severe pain in the kidneys and bladder, I was surprised to find that a deposit, which appeared to the naked eye purulent, was chiefly composed of cells, exactly resembling in form, size, definite cell-wall, contained nuclei, and actively revolving molecules, the salivary corpuscles with which I had become so familiar; and should have imagined that these preceeded from an accidental adulteration with sputum, had I not been fortunate enough to have ocular demonstration to the contrary when procuring the specimen. I examined the corpuscles repeatedly in the course of the two following days, during which the movements of the molecules continued, but could make nothing else of them except drawings which I carefully preserved.

On consulting the text-books to which I had access, I found that neither Beale, Roberts, Bird, nor Naubauer & Vogel, in their works on the urine, mentioned cells such as those above described, although the editors of the "Micrographic Dictionary," in their description of the salivary corpuscles, state that they have seen them by myriads in the renal secretion; nevertheless, numerous specimens examined during the following few months, seldom without special scrutiny for similar bodies, afforded none, until in a deposit occurring from urine brought me by a medical friend about December 1st, the corpuscles I had so long been in search of were at last recognized, and on this occasion I was able to exhibit them to several microscopists, among others to my friend, Dr. H. C. Wood, Jr., Professor of Botany, in the University of Pennsylvania.

On the 5th of December, I procured a sample of urine from a case of cystitis, which had only been passed a few hours, and on placing it under the field of the 1.25, I found many of the pus-globules exhibiting the amœboid movements described by Dr. Beale, in his late elaborate work on the "Microscope in Practical Medicine," no corpuscles containing moving molecules were visible, but observing that some of the pus-cells having a spherical outline were almost opaque, and only about 1.3000 of an inch in diameter, it occurred to me that they were perhaps only contracted by the exosmose of their fluid contents into the surrounding denser medium, and the idea suggested itself to try the effects of dimin-

ishing the specific gravity of the urine, by the addition of water. Under this treatment, I found that the cells which had been exhibiting amœboid movements, soon assumed a spherical shape, rapidly enlarged until they reached the diameter of about 1.1700 of an inch, when the contained molecules began to revolve, and ere long took upon themselves the extremely rapid and confused movement which I had twice before seen in cells occurring in urine, and hundreds of times in the salivary corpuscles; the action of aniline solution rendered beautifully distinct, definite nuclei similar to those found in the salivary bodies.

The opportunity of corroborating the interesting and remarkable researches of Dr. Cohnheim, of Berlin, on the idenity of the pus, and white blood corpuscles thus obviously presenting itself, I proceeded with the following experiments. Drawing a drop of blood from the tip of my finger upon a "growing slide," I covered it with thin glass, and placed it upon the stage of the microscope, after finding a white blood-corpuscle showing well marked granules, I raised the objective, and arranged a fine filament of thread from the reservoir filled with fresh water to the upper edge of the cover, and a fragment of wet paper to the lower, according to the usual method for securing a constant current beneath the thin glass. On depressing the body of the instrument and bringing the corpuscle again into view, I found it still adhering to the surface of the cover, notwithstanding the torrent of red globules hurrying over the field; and these became paler and less distinct by reason of the diminished density of the serum. The white cell first gradually expanded and displayed its delicate wall with two rounded nuclei, then, after acquiring the magnitude of about one 1700th of an inch, it exhibited the rapid and incessant movement of its contained molecules, and finally, when its diameter reached about one 1400th of an inch, it burst suddenly, discharging a portion of its contents, whose outbreak resembled that of a swarm of bees from a hive, and some particles of which, actively revolving as they went, swarm off to the confines of the field. On repeating the observation and allowing some of the aniline solution to flow in with the water after the first few minutes, the nuclei were strongly stained and rendered beautifully distinct, although the movement of the molecules promptly ceased, in this respect as in all the others showing a pre-

cise identity with the reactions afforded by the pus and the salivary corpuscles as above described. It should be noted that a certain variable proportion of the white cells of the blood thus treated exhibited no moving molecules, and apparently consisted solely of a nucleus and cell-wall. It is worthy of remark that this experiment amply demonstrates the inestimable advantages of high objectives (which some even yet pretend to doubt), for the remarkable movement of the contained molecules seems to have escaped the attention of Prof. Virchow, the great author of "The Cellular Pathology," (vide p. 181, Chance's translation, 1863). Although the observation was first made with the aid of a one 25th, yet afterwards knowing exactly what to look for, I had little difficulty in demonstrating to various gentlemen the revolving molecules thus brought into view with powers as low as the one 8th inch.

A portion of fetid pus from an abscess, and a specimen of mucus from the nasal fossa, under a like treatment gave similar results, which did not materially vary in numerous trials.

Tracing now the white blood-corpuscle from its condition of irregular outline, and amœboid movement, as observed in serum and in heavy urine, when the circumambient fluid approaches the density of 1028, through its rounded form with slightly more distinct nuclei, in the liquor puris, and in urine of lower specific gravity, we find that immersed in a rarer liquid, approximating to the mean density of ths saliva (1005,) it has an accurately spherical outline, is more than twice the magnitude, and contains a number of minute actively moving molecules, thus exactly resembling in all sensible characters the true salivary corpuscle; and it therefore seems reasonably certain that the blood, under the appointed nervous influence, congesting the buccal mucous membrane and associated glands, moves slowiy enough through its capillaries to allow some of its white globules to penetrate the walls of the vessels, as they are said to do those of the frog's mesentery in Cohnheim's experiment (Virchow, archiv; Band 40, 8, 38, u. s. w.), which, under the influence of the rarer saliva, expanding them and setting them free to move their contained molecules constitute the bodies so long known to histologists as the corpuscles of the salivary fluid.—[*Balt. Med. Jour.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D.

Cancerous Stricture of Rectum, Colotomy.—T. B. Curling, F. R. S., reports in the Lancet, January 1, 1870, a case of obstruction to the uatural discharge of the fæces, by a cancer of the rectum, which finally invaded the entire length of the colon. Colotomy was performed and the fæces passed through this artificial anus during the seventeen months previous to the death of the patient. During these seventeen months the patient, with the aid of morphine, lived in comparative comfort and died from sudden hæmorrhage from the rectum.

The offensive odor ordinarily present after colotomy, was prevented in this case, by the use of a strong belt around the waist holding in position over the anal orifice an ivory plug or a sponge covered with oiled silk. Over the pad was placed a layer of spongio-piline, saturated with carbolic acid lotion.

The points of greatest interest in this case, are, the prolongation of the life for seventeen months after obstruction occurred, and the tolerable comfort enjoyed after the operation.

Operative Treatment of Varicose Veins.—Mr. Marshall, University College Hospital, pursues the following mode of treatment for varicose veins, which is copied entire from the Lancet, January 1, 1870. "A bandage was first applied around the limb just above the knee-joint, in order to produce distention of the affected veins. Under the thickest masses of varix were passed large broad needles, resembling very much those formerly used for inserting setons. The sharp extremity of each of these needles was then detached; over the vein at the seats of puncture were placed small pieces of a thick gum-elastic tube and the inner surfaces of the vein at these points were kept in contact between the broad needle below and the elastic tube above by means of a ligature applied in

the figure-of-8 form. Small branches of the distended and varicose veins were then treated by the ordinary thin pin and suture. Mr. Marshall stated that it was his practice to remove the pins at the end of forty-eight hours, or at the end of the third day at the longest, leaving the pieces of elastic tube and the ligature *in situ;* and to apply a bandage to the limb. The cases treated in this manner have generally had a very good termination, the veins becoming obstructed by adhesive inflammation, and, in most instances, without the appearance of even a few drops of pus."

Cardiac Complications of Renal Disease.—Dr. Murchison, at the Middlesex Hospital, called attention to two cases of cardiac disease then under treatment, in both of which the aortic valves were affected. He expressed the opinion based upon observation, that in cardiac disease following morbid change in the kidneys, the aortic semilunar valves were first affected, and oftentimes were the only ones involved, while, on the other hand, acute rheumatism was most often followed by mitral disease, as the initial affection.

Aqua Puncture.—Drs. Mallet and Pouillet have recently made comparative trials with water and solutions of morphia, injected subcutaneously. It was found that a few drops of clear water injected over the seat of pain was followed by relief; but that the effect of the water was a *little more* evanescent than that of the morphia solution.

Two Cases Treated by Hydrate of Chloral.—Surgeon A. M. Adams reprints in the Lancet for Jan. 22d, 1870, two cases relieved by hydrate of chloral. A delicate female was delivered of her first child on the 25th of November. Four days afterward she was attacked with acute, ungovernable puerperal mania. Bromide of potassium, opium in large doses and chloroform were administered without benefit. Forty grains of hydrate of chloral were given a number of hours after the discontinuance of the other remedies. At this time her pulse was scarcely perceptible, and her extremities were cold; but her unnatural strength seemed unimpaired and her cries were incessant. In five minutes after the chloral was taken she became calm and conscious, and asked what had been wrong, &c. Shortly afterward drowsiness was followed

by sleep, which latter was at first rather profound, but which soon became natural and light. The attacks of mania recurred frequently; and each time the chloral, in from 40 to 60 grain doses, was followed by a natural sleep, lasting from 6 to 8 hours.

The other case was a man laboring under a severe attack of asthma. Previously chloroform has been frequently employed to cut short the attacks, but with only temporary relief. This time 30 grains of the chloral were given, and in less than 20 minutes calm sleep was induced, which lasted for 8 hours.

Annointing with Salad Oil in Infantile Disorders.—Dr. H. G. Knaggs, of Kentishtown, reports a few cases in the Lancet, Jan. 22d, 1870, illustrative of the benefit derived from the use of salad oil by inunction, in the treatment of children affected with atrophy, bronchitis, convulsions, diarrhœa, febrile disturbances in general aud all other infantile disorders attended by an unnatural state of the skin. He claims that great relief follows its use in from twenty minutes to twenty-four hours; "though sometimes forty-eight or even seventy-two hours will elapse before any decided signs of improvement occur." The whole body should be annointed every 4, 6, or 12 hours.

The following advantages of its application over the ordinary warm bath are claimed:

1. Skin action is more completely and permanently restored.
2. The danger of reäction is avoided, for there is no sudden change of temperature; and moreover, the sheet of oil protects from changes of temperature.
3. It acts as a fuel-food, not only preventing waste of tissue, but actually increasing the bulk of the little patient.
4. It does not depress, but, on the contrary, seems to exhilarate."

Pyæmia.—M. Alph. Guérin, at the Academy of Medicine of Paris, has recently advanced the theory that pyæmia, instead of being due to the absorption of decomposing secretions, is "a kind of typhus—a surgical typhus —excited by miasmatic emanations. Ague," says the author, "is engendered by marsh miasmatic, purulent inection by animal miasmata."

Pyæmia with Singular Eruptive Symptoms.—Dr. Anstie, at Westminster Hospital, reports a case of pyæmia occurring without *assignable cause* to be discovered during life, or by post mortem examination. He states that the disease is oftentimes developed in an insidious manner, and is frequently at first mistaken for an attack of rheumatism.

[During a very lengthy and interesting discussion of the subjects of pyæmia, purulent infection, septicæmia and hospital gangrene, by the College of Physicians and Surgeons of Louisville, in the early part of the year 1866, the writer asserted that pyæmia had, in a number of cases treated by himself, supervened upon gun-shot wounds that were healing and free from decomposing secretions, and that the disease must necessarily, in numbers of cases, be due to *animal miasmata*. This theory was in opposition to the views of Prof. M. Goldsmith, now of the State of Maine, who insisted that an open wound was necessary for the supervention of pyæmia; and further, that the wound must either be in a sloughing condition or have in *contact* with it decomposing blood. During the progress of the discussion the Professor propounded the following pertinent question: "Has any surgeon in the United States or Confederate Armies seen a hospital attaché attacked with pyæmia, whilst in attendance upon pyæmic patients, who was not at the time affected with an open sore?" J. M. H.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LESSONS FROM THE MEDICAL CLINIC AT THE "HOSPITAL DE LA CHARITE," GIVEN BY S. JACCOUD, Assistant Professor to the Faculty of Medicine at Paris, Physician to the Hospital St. Louis; Chevalier of the Legion of Honor; Corresponding member of the Royal Academy of Science of Lisbon, and of the Medical Societies of Berlin, Vienna, Wurzburg, etc. Containing 29 Wood-cuts and 11 Chromo-lithographs.

[Translated by Dr. J. D. JACKSON, of Danville, Ky.]

THIRD LESSON.—TREATMENT OF PNEUMONIA.

Indications for Tartar Emetic and Digitalis; Mode of

Action of these Medicines. Their Advantages and their Dangers. Comparative Statistics of the Mortality in Pneumonia according to Treatment employed. Of Tonic Medication. Indications for Alcohol. Its double action upon the Nervous System and upon Organic Combustion. Dangers of this Medication. Indication and Effects of Blisters.—Conclusion.

GENTLEMEN: I have exposed and discussed at length, the reasons for which I abstained from bleeding, in our interesting case in St. Annes' ward; but the letting of blood, is not the only treatment of an active character, which we can oppose to pneumonia; two other means, the tartar emetic and digitalis, are daily employed with unquestionable advantages, and the study which we have undertaken, would perhaps remain unfruitful, insufficient surely, if I did not render you an account of the motives which in the actual case, prevented me from resorting to these therapeutic agents.

You will easily comprehend my reserve, when you shall be enlightened regarding the real actions of these medicines. Now, these actions, so complex apparently, can be characterized in a word: they are anti-febrile; they modify the temperature and the pulse. It is sufficient to tell you, that they are also remedies for symptoms, and that they can do nothing with the disease. Certain developments will suffice to justify this proposition.

What takes place, in effect, with a pneumonic patient, to whom you administer tartrate of antimony in contra-stimulant doses as they are called, that is to say, in the proportion of 20 to 30 centigrammes daily? Excepting certain cases, in which, despite all precautions, the medicine produces vomitings incessant, soon a period of tolerance is established with the patient, during which the emetic no longer produces the effect of vomiting. It is then, by virtue of its depressant action which it exercises upon the nervous system, that tartrate of antimony pro-

ducing more or less nausea, brings about a notable fall of the temperature and the pulse, and an increase of the secretion of the renal and cutaneous secretions. In the meantime, the patient experiences a peculiar sense of languor which it is difficult to describe, but of which I can certify to you the reality, having experienced it, and indeed, he feels better, because in a certain measure, he is delivered from the painful impression which results from febrile heat. By its antipyretic action, the remedy has another effect, which in variable degrees, appertains to all the antifebrile remedies: it diminishes the expenditure of the organism, in restraining the activity of the interstitial combustions, the energy of which is always measured by the thermometric number of the heat. These effects of tartrate of antimony are temporary, as are those of all therapeutic agents, addressing themselves to symptoms; they disappear at the end of a greater or less time, according to the individual; and it you wish to maintain this artificial state of depression during the whole period of the acmé of the malady, we must, of necessity, prolong the administration of the medicine.

It is precisely there, gentlemen, that there is danger in the method. These salutary effects, the best being in the sensations of the patient, are the consequences of the depressant action of the remedy upon the nervous system; increase this depression, and you arrive at collapse, you create a quasi paralytic state of the system which governs all the others, and you plunge your patient into that artificial adynamia of which you have had such a striking example in the young man in St. Charles' ward. If, however, the treatment pushed to this extreme limit had for its certain effect the hastening of the resolution of the hepatisation, and diminishing the duration of the disease, one would have a specious motive for playing this hazardous game of which the patient is the stake;

it could be said on finally analyzing the matter, that tartrate of antimony is advantageous despite its dangers, since it restrains for some days the duration of the abnormal work imposed on the organism; but, it is nothing, and I ought, on this subject, to fortify you against a mistake common in a certain epoch, and which is yet too often committed to-day.

It has been repeatedly said, that tartar emetic possesses, among other properties, that of favoring the liquefaction and resorption of the pulmonary exudation, and thus it abridges and oftentimes remarkably, the total duration of the malady. This is a pure hypothesis: there are no other certain effects of the medicine than the antifebrile made known to you; a pretention to the contrary, could be put forward with some show of success at the epoch when we were not informed regarding the natural march of pneumonia. Then on seeing pneumonias treated with tartarate of antimony enter upon resolution on the fifth, the sixth, or the seventh day, one could think that this rapid crisis was the direct result of the medication. But when an observation of hundreds of cases of pneumonia let alone, had demonstrated that the resolution from the fifth to the seventh day is the rule, and that the later defervescence is the exception, the preceding presumption was compelled to fall: in effect it did fall, and was for every impartial physician, but the vestige of an error of another age. This is, one of the most considerable anvances of contemporary therapeusis. Know you, indeed, what happens if we believe the pneumonic lesion directly amenable to antimonial treatment? By a natural consequence, one seeks in the state of the lesions themselves, the conditions for or against it. He gives the tartar emetic to the patient. On the morrow he finds the lung in the same state; a new administration of the medicament. A day later and the hepatisation persists; it is

doubtless, because the treatment has not been sufficiently energetic; it is necessary to continue augmenting the dose. Prostration arrives, which checks the accomplishment of the natural resolution; he charges it to the malady which yet resists the remedy directed against it. He redoubles his efforts, he concentrates all his attention upon the anatomical alteration, without thinking of the individual who is affected with it; he hastens his blows upon the patient, with the view of reaching this rebellious disease, and the patient succumbs, not to his pneumonia, over which he had possibly triumphed, but to antimonial poisoning, resulting from a blind and meddlesome therapeusis. And this, guard you, is not a fancy sketch. This is seen for tartar emetic in the times of Rasori, as it is seen for bleeding in the times of Broussais: for the one, it was the diathesis of stimulus which it was necessary to overcome with antimony, for the other, it was the irritation which it was necessary to remove with the blood, not to say with the disease, and by chance, coming in aid of my demonstration, you have been permitted to see in a life, last week, the results of the entirely too prolonged administration of antimony. There is no dobut in my mind, I tell you conscientiously, that the young patient whose history I have retraced, had succumbed within 36 or 48 hours, if the treatment in use for five days and a half had been continued; but when the organism, left to itself, had been free from this profound perturbation, which with his powers, had taken away all his means of action, there was promptly conducted to a happy termination, the lesion and the malady, which the anterior medication, as you have established for yourselves, did not abridge for a single hour. May the remembrance of this fact be your guide in practice, and always recall to you the real action, and the true indications for tartrate of antimony in pneumonia.

The situation you can now comprehend, is the same as for bleeding. It is not in the name of the disease, nor the character of the phlegmasia, nor in the lesion, that the indications ought to be sought; it is in the characteristics of the fever, and the general state of the patient: in the fever, because the medicament acts but upon this symptom; in the patient, because it is at the expense of his powers that the antifebrile action is obtained; it is necessary before all, that he shall be in a state to support the state of artificial depression, which you are going to cause him to submit to. The effect produced by the antimony, is nothing but a relief, and you are not able to foretell anything by it as to the probable duration and the issue of the pneumonia: by this treatment, the patient is placed in the least painful condition for attaining the resolution of his phlegmasia, but he gains nothing as to the resolution itself, and you will find here the necessity of this proportional estimate, concerning which, I entertained you at length as apropos to blood-letting.

If the temperature maintains itself at a moderate degree of 38°.5 to 39°.5 for example, if the pulse is of moderate frequency, is strong without being hard, full, without being resistant; if the patient does not complain of a sense of oppression, which sometimes painfully exists without appreciable objective dyspnœa; if, in a word, the pyrectic orgasm is not of a violence such as to produce uneasiness, whatever may be the constitution of the individual, do not give tartar emetic, for no real indication exists for the medicine; in administering it under these circumstances you do nothing but passively follow the motive of treatment for itself. If, on the contrary, the conditions are reversed, if by reason of the intensity of the febrile movement, the situation of the patient is truly uncomfortable and painful, you will then give tartar emetic with great advantage. At the end of 18 or 24

hours, the effect will be produced, and your patient will be in a much more satisfactory condition for attaining defervescence. But in the presence of this happy result, do not forget the special mechanism by which this amelioration is produced; consider attentively the state of the forces, and in the first sign of feebleness furnished by the pulse, the heart, or the external appearance, stop the medicine, and substitute from the start, for the hyposthenisic agent which goes beyond its useful effect as a tonic medicine, the extract of quinquina for example, combined according to the case, with a small quantity of wine. Guided by these precise and rigorous indications, the administration of tartar emetic will render you great service, and at the end of some time in practice, you will observe yourselves also a fact which I have often established; it is, that it is scarcely possible that pneumonia can demand the employment of the remedy beyond forty-eight to sixty hours. In general, this time suffices to give the patient all the benefit of the medicinal action: persist, and you will arrive at the toxic action. Finally, I repeat again, I will repeat it to satiety, the state of the pulmonary lesion does not furnish any notion as to the applicability of tartrate of antimony as a medicament; indications and contra indications, ought to be exclusively sought for in the general state of the patient and the character of the fever.

The preceding considerations are entirely applicable to digitalis. This medicine, the use of which tends to become more and more common in the treatment of pneumonia, is also an antifibrile, and nothing else; it lowers the pulse and the temperature more rapidly than antimony, and like the latter, produces a state of nausea, which is, however, less marked. The action is as similar as possible you will see: with the digitalis as with the tartar emetic, you may divide, you may suppress even some-

times, the most painful element of the disease, the fever, so to say, so that your patient is carried on lightly to the termination of his pneumonic lesion, but with the one as with the other of these agents, if, in your artificial depression, you forget the meausure eompatible with the powers of the individual, you will produce an exhaustion of the nervous system; a primitive exhaustion with the tartar emetic, which acts from the beginning as a depressant; an exhaustion of a secondary character in the cure by the digitalis, which at first exercises an excitant action upon certain departments of the brain, and you will pass with a rapidity, often terrifying, to the point of collapse. The mode of action being the same, the advantages and the dangers of the medicaments are identical.

Nevertheless, tartar emetic and digitalis are more frequently indicated than bleeding, because, acting in the same sense, they do not present the same degree of danger as loss of blood. The reason of this is, they produce no material spoliation; they simply have a functional effect, putting the patient in the most favorable condition and thus conduct him into the best state for natural defervescence. Once that the inconveniences of these antifebrile remedies are clear, it is easy to guard against them; they are remedies, of which you are always perfect masters, and whose actions you can measure at your will; they are then under the conditions which I have defined of an incontestable utility.

I have told you, gentlemen, that the therapeutic methods which we are now passing in review, bleeding, tartrate of antimony and digitalis, address themselves exclusively to certain symptoms of the pneumonia, and modify in no respect whatever, the final evolution of the malady itself. A study of the action of these medicines on the one hand, and an exposition of the different

phases of the pneumonic lesion or the other, have already before your own eyes, justified this important proposition: but I can also furnish you a complementary proof, which, though indirect, is none the less peremptory. This proof we find in the collected statistics, by which we recognize the mortality of frank pneumonia in the adult. These numbers, which collected in different countries, at different epochs, and by observers equally competent, and meriting absolute credence, teach us that the mortality of pneumonia varies with wide limits, according to the treatment adopted, and the highest proportions appertain to those pneumonias treated by blood-letting and tartrate of antimony.

Now, if these medicines can produce anything else than a modification of symptoms; if they really exercise upon the disease the curative action which has been attributed to them, it is very clear, that the numerical expression of their results would not be precisely opposite; the pneumonias thus treated ought to give the least considerable mortality, and the high proportions ought to belong to the series in which the malady has been abandoned to itself. Now, here are the numbers:

1. *Pneumonia treated by blood-letting alone.*

Statistics of mortality in Edinburgh—	698	cases. Mortality,	34 52
" Dietl. : : : : : : : :	88	" "	20.40
Total of cases, : ; : : : : :	783	Mean mortality,	27.06

2. *Pneumonia treated by tartrate of antimony alone.*

Statistics of Rasori, : : : : : :	748	cases. Mortality,	22.06
" Dietl, : : : : : : : :	106	" "	20.70
	758	Mean "	21.38

3. *Pneumonia submitted to a mixed treatment*, (Expectation in mild cases, bleeding and antimony in the severe ones.)

Results grouped from Lænnec, Grisolle and Skoda.

Maximum mortality, : : : : : : :	16
Minimum " : : : : - : :	12.5
Mean : : : : : ; : : : :	14.25

4. *Pneumonia abandoned to itself, (pure expectation.)*

Statistics of Dietl. : : : :	189	cases. Mortality,	7.4

5. *Pneumonia treated exclusively by tonic medication.*

Statistics of Bennett, ; : ; : :	Mortality, 3.10

The mortality falls, in proportion as the treatment becomes less and less energetic, and the virtue claimed for these remedies is thus judged with an inexorably mathematical precision. As to digitalis, the comparative researches of Thomas (of Leipsic) have established the fact, that despite its powerful action upon the pulse and temperature, it does not by a single hour diminish the duration of the pneumonia, and in no respect modifies the natural defervescence.* The preceding tables show you besides that that the minimum mortality is obtained with the exclusively tonic treatment, that is to say with quinquinia, wine, and a mild diet, (bouillon coupè), even during the period of the acmé. This is one of the most remarkable of results. I should be very careful in concluding that it is proper, without distinction, to submit all cases of pneumonia to this treatment. But what you ought to see in this exceptional mortality of 3.10 per 100, is a proof of the extreme frequency with which the indication for tonics is presented in pneumonia, it is also a proof of the innocuousnes of this treatment. It is for these two reasons—to seek for no others—that in applying this treatment indiscriminately to all pneumonias, that we arrive finally at a mortality, much less than with every other method, although the total of cases does not certainly present a positive and rational indication for tonic means. We can now return to our patient.

Although tartar emetic and digitalis had not such serious inconveniences as bleeding, yet the state of the woman did not permit even this temporary draught upon the forces of the organism. I abstained then, and commenced as I have told you, a mild tonic treatment. By

*Thomas Ueber die Temperaturverhältnoisse bei croupscher Pneumonia. (Archiev der Heilkunde, I, 1868.
Ueber die Lehre von den Kritecshen Tagen in den corufëren Pneumonia. (Eod. loco. II, 1865.)
Ueber die Wirksamkcit den Digitalis. (Eod. loco. IV, 1865.)

the next day the situation had become worse: the two inferior lobes of the lung completely solidified, transmitted with the force of a harmonic table, a rude and clear souffle harshly striking the ear (offensait l'oreille); there was not a trace of râle; the dyspnœa was increased; the adynamia more profound, manifested itself by a hollow voice, a small and compressible pulse, feeble and heavy cardiac beating, and this time the palmar recurrence was totally deficient. The peril was imminent; the patient would infallibly perish if we did not find the means of very quickly and vigorously sustaining an organism, evidently incapable of resistance by itself, during the four, five or six days, yet separating us from the natural solution of the malady. An energetic stimulation was necessary: I prescribed 50 grammes of brandy in an equal quantity of *eau sucre*—a small cuptul of this potion to be given every hour.

Introduced by Robert Bentley Todd, the treatment of pneumonia by alcohol, (under the form of brandy; rum or alcohol properly speaking), it has been advised and practiced by him as the unique and constant treatment of this malady. A grave error, against which, I hope—considering the studies we have made—I can dispense with protesting. To say that it is proper to treat all cases of pneumonia by bleeding alone, or by antimony alone, this is always to commit the same fault; it is the treatment of the disease, substituted for the treatment of the patient. My learned, philosophic master, Professor Behier, who has studied this question with a precision which is remarkable, has carefully guarded against following the errors of the English physician, and making generally common in France, this therapeutic method, he has striven to fix the true indications for it. I expressly recommend you to read the memoirs which he has devoted to this point of practice.

That alcohol can be given without prejudice to a patient with pneumonia, not imperiously demanding its employment, is perfectly true, and a knowledge of this fact is of real importance; but, if in therapeutics one thing is to do no harm, another is to do good: now, for alcohol to be useful, that it may become really a therapeutic agent, it is necessary that it should be directed by rigorous indications. For me the indication is unique—it is true adynamia; but this is the formality, and it is just to add, that under these conditions, alcohol is the remedy par excellence—that it is your most precious resource—and with this aim you will often obtain effects as marvellous as those which you have observed with our patient.

In pneumonia, as in all febrile maladies, alcohol has a a complex action, a knowledge of which is indispensable to us if we would manage with utility and without danger this powerful, modifying agent. On its absorption, it exercises an energetic and almost instantaneous stimulation upon the nervous system; consequently the heart's beating becomes more rapid and stronger: nothing can be clearer than the actual demonstration of this effect. Sometimes, also, the temperature falls: in our woman we have observed a diminution of 1°,4 within the first forty-eight hours of medication; but this fall was followed by defervescence—we are then not authorized in accrediting it to therapeutic action. This series of modifications, the development of which is so very rapid, results directly from the artificial excitement of the nervous system: upon this point all the world has agreed; this first period of the action of alcohol, it is useless to insist upon it, gives rise to no controversy. Observe, gentlemen, that if indeed this medicine had no other effect, it would none the less be eminently useful, for it is precisely the collapsed state of the nervous system which

we have to contend against, and in this respect there is no agent which presents an equal rapidity of action comparable with that of alcohol.

But is the therapeutic influence of this substance confined to this immediate and temporary stimulation? This is what I wish rapidly to examine. The answer to this question is naturally subordinate to the mode of evolution of alcohol in the system: now this last problem has given rise to numerous controversies, and for some years, science has vibrated between two opposite conclusion. Appealing to the chemical composition of alcohol, physiologists have taught, after Liebig, that this eminently combustible substance is very little or not at all eliminated by the secretions, that it remains in the system to be burned by the oxygen absorbed, that it thus becomes a source of heat, and finally, that by its proper combustion, which employs a certain quantity of combustible gas, it restrains the destruction of other combustible materials; that alcohol in a word is a saving agent, a veritable respiratory aliment. Such, you know, is the doctrine to which the illustrious Liebig has attached his name.

Much more recently, Perrin, Lallemand and Duroy have sapped the foundations of this doctrine: by multiplied and ingeniously conceived researches, these able experimenters have concluded that alcohol is naturally eliminated by the divers secretions, that as a consequence it is not burned in the economy; that consequently, it is inapt to play any part in nutrition, and that all its action originates in the direct and immediate stimulation of which we spoke a little while ago. Nothing is more logically deduced, nothing clearer than these conclusions, nothing more demonstrable than the experiments upon which they are founded. The French observers have perfectly proved that alcohol is eliminated in nature—this fact

rests acknowledged; but in what proportion is it eliminated? Is it totally or partially? And in the last alternative, what connection exists between the quantity which remains in the organism, and what passes out intact by the secretions? The rigorous conclusions of M. M. Perrin, Lallemand and Duroy, are not legitimate, unless the elimination is total: now, it is precisely there that they have not established the point.

Recent researches, among which I will cite you those of Strauch, Baudot and Schulinus,* have filled this gap; the elimination of alcohol is only partial, and the quantity eliminated is much less than that which disappears in the organism. Then the doctrine of Liebig only fails by its absoluteness: it is not all the alcohol ingested which is burnt, it is a part only; but this suffices to keep this substance in the class of combustible agents, makes it a *saving agent* (*agent d'epargne*). The therapeutic action of alcohol is then not confined to a dynamic excitation of the nervous system; to this effect there is super-added a material modification of the nutritive combustions, (*combustions nutritives*), and this last result is certainly not less useful than the first in febrile adynamia. To give alcohol under these conditions, is to come directly to the assistance of the patient whom the fever consumes, it is to furnish him an aliment eminently combustible, by the very rapid decomposition of which, the combustion going on at the expense of the fevered organism, is necessarily limited. In other terms, the excessive combustion pertinent to fever, is in part entertained at the expense

*Stranch, de demonstration spiritus vini in corpus ingesti. Dorpati, 1862.
E. Baudot, Union Medicale, 1863.
H. Schulinus, Untersuchungen über die nnchtheilung des weingeistes im thiereschen Organcismus (Archiev des Heilkunde, 2, 1866.
Compare:
Maring. De mutationibres spiritus vini in corpus ingesti. Dorpati 1864.
Hall Smith, Experiments on the Chromic Acid Test for Alcohol.—[Brit. and Fr. Med. Clin. Rec., 1864.

of the alcohol absorbed, instead of being entirely kept up by the organic substance itself. Finally, the therapeutic applicability of alcohol is double, and the two effects concur to the same end: it awakens the excitability of the nervous system and moderates the expenditure of material of the patient. It would be difficult for you to find an agent more completely applicable to the urgent indication which adynamic pneumonia presents.

Nevertheless, even in those cases in which it is perfectly indicated, this medication ought to be maintained within judicious limits; its abuse would have its inconveniences. If the doses of alcohol are very considerable you will produce intoxication, and this the more easily, inasmuch as the individual will be enfeebled: such a thing happened to Todd, who was often compelled to combat acute alcoholism induced in his patients by the too liberal administration of the medicine. On the other side—and this is more serious still—if you give alcohol in too great a quantity, or for too long a time, you risk bringing about a state of asphyxia, which is produced by a special mechanism. You thus impregnate the organism with an extremely combustible matter, of which a part alone is naturally eliminated; the rest is burned by the oxygen of the blood; and as the absorption of this gas has, in consequence of the disease, already fallen below the normal proportion, these two conditions unite to diminish the total quantity of the gas producing combustion; the danger no longer proceeds from the organism's burning up too much of the combustible material, it proceeds from the increased consumption of the oxygen, which is necessary for the consumption of it. Soon the gas can no longer suffice for the operations of interstitial change which constitutes respiration, (*respiration a distance*), the æration of the blood becomes more and more inperfect, and asphyxia is established. These dan-

gers which physiology can foresee, clinical observation demonstrates; you ought never to lose sight of them. This, however, is no reason for depriving ourselves of a precious agent, which can render important services: every medication has its perils; it is simply necessary to carry along with the administration of the remedy that circumspection which its physiological action imposes upon us. The first day I gave our patient 50 grammes of brandy; on the next, 60; and the day after I arrived at 80 grammes. This dose was not exceeded; I had not even reached it had I not had to combat an adynamia truly very profound, coming up in a subject for a long time past debilitated. I cannot see occasion in the female to give this dose of eighty grammes; with man you can go to an 100, and even 150 without inconvenience: for my part I never exceed 100. When the adynamia is less—when a real amelioration is manifest—it behooves us to gradually lessen the daily dose of alcohol; it ought never to be stopped suddenly: the organism suddenly deprived of this potent stimulant, may soon fall into a collapse from which it is revived with great difficulty, and your efforts this time may remain unproductive. This recurrent collapse is much to be dreaded, and to avoid it as much as possible, I am accustomed to succeed the administration of alcohol by wine, (Bordeaux, Bourgoyne or Bauyls), in the dose of 250 or 300 grammes a day, according to the individual conditions.

Do not apply alcoholic medication, except in the presence of the precise indication which I have pointed out to you; manage it with those precautions which its power exacts and you will have all the useful effect, without anything to fear from its toxic effects.

From the second day of the treatment, our patient was in a little less precarious state; then the pulse assumed a little force, the voice became less feeble, and in three

days, although the pulmonary lesion had not undergone the least modification, adynamia was dissipated: I then dared to give a prognosis, which the future has justified. Thanks to the assistance we gave, the patient returned to the ordinary conditions of frank pneumonia. Commencing on the seventh day, interrupted on the eighth, defervescence was complete on the morning of the ninth day, and as soon as I could observe certain râles (*râles de retour*) in the zone of hepatization, I prescribed a large fly-blister. I was not sure but the woman would have passed through her pneumonia without impediment, but after the storm which had troubled the evolution, I thought it prudent not to abandon entirely to the organism, the charge of absolving the fibrinous masses, which were obstructing the greater part of the right lung. It would have accomplished the task, I think, but the reparation had been certainly much slower, by reason of the debility of the patient. Increased to activity by the vesicant, the restitution *ad integrum* was soon accomplished, and we have had the satisfaction of seeing this woman quit the hospital in a state of perfect health.

These vesications, the abuse of which is so frequent in pneumonia, there is no other indication for, than the preceding: they favor the resorption of the exudate in process of liquefaction, and with enfeebled individuals, whose organic operations go on with a provoking slowness, they thus render service of no doubtful character; but, this condition excepted, know you well, do not serve the purpose intended. Therefore, it is never necessary to have recourse to them at the beginning of the disease, nor during the period of the acmé; the special action of this revulsive medication, indicates to you clearly, the moment when it is opportune: this is after the defervescence, when auscultation reveals by the returning râles, (râles de retour), the commencement of

liquefaction. If then, for any reason, you fear resorption will be difficult and slow, apply one or more blisters, you will find the effect marvellous; but under any other condition, at any other moment of the disease, abstain from a treatment which without any advantage, will add to the uneasiness of your patient, and increase the pyrectic orgasm. You have been able to see what purpose a blister served in our young man in St. Charles' ward, who had one inflicted upon him in the city, on the second day of his pneumonia.

To sum up all, gentlemen, and this is the synthetical conclusion of the preceding study, frank pneumonia, left to itself, has a natural march, by virtue of which it tends to a cure; the cycle of this spontaneous evolution, variable as to its chronological term, is as clearly defined in its other characters, as that of an eruptive fever: variola for example. The conduct of the physician, ought then, to be the same, in each case. Very well! I ask, what do you do in variola? Nothing, if it marches regularly; because you know very well, that resolution will not fail to take place, and it is not in your power to advance it one minute. If, on the contrary, the patient deviates from his normal type, if some phenomenon arises the violence of which makes you uneasy, if any unusual symptom appears; in brief, if any particular indication arises, seek to fulfill it, and disengage the patient from an accidental and irregular element, which can impede his progress, or compromise the issue. The situation is identical in pneumonia. If it is normal in its origin, regular in its periods, moderate in the symptoms which it produces, for God's sake do not interfere, do not trouble your patient, or go to producing trouble, by your blind and unseasonable intervention. What will you do otherwise? Where is the indication in the supposed case? Listen well; there is none, or rather there is but one;

await with patience, the natural termination. If the conditions are reversed, i certain phenomena furnish a positive indication for acting, fulfill the symptomatic indication by means of one of the therapeutic means at our disposal, but fulfill them with measured wisdom. Consult without ceasing the general state, watch over the state of the forces, and guard against striking the patient, under the pretext of modifying the malady whose immutable march escapes your means of action; finally, never forget this precept of Kalteabrumme, which ought to be the constant guide of your practice: "*Il faut un certain degré de force, pour resoudre une phlegmasie.*"

ART. II.—TUMOR OF THE LEFT OVARY; LARGE TUMOR FROM RIGHT BROAD LIGAMENT; PREGNANCY COEXISTING; INCISION; ABORTION. By J. TAYLOR BRADFORD, M.D., of Augusta, Ky.

Mr. S., of Boonville, Mo., wrote me, that "his wife had ovarian tumor, and during the last two months, the tumor had increased so rapidly, that some surgical interference would have to be instituted, and that he would send her to Paris, Ky., where her parents reside, for me to operate on." In another letter, he says, "I have a medical education; (mark the historical connection with coming events); have been married three years; my wife had been in bad health before we were married; her monthly sickness had been irregular, but after taking iron, etc., she had become regular; last Spring she caught cold; menses ceased, but appeared again, and at such times, without pain."

When Mrs. S. arrived at Paris, Ky., she wrote me: "The tumor is growing so rapidly that I can not lie down, and hope you will set an early day for the operation. My husband has written you the symptoms of the

case; there is one thing I must tell you; for several years before I was married I had bad health; I had been treated for chronic disease of the stomach and bowels, but had a swelling in the left side, which had not gone away, when I was married; one year after I was married, the right side became fuller. My monthlies, both before and since I was married, were irregular, but after taking iron and tonics, they appeared again, and since that, without pain."

When I visited Mrs. S. in Paris, in company with Dr. Ray, the details of her case were much as her letter purported, except, that it was then time for her monthly sickness, and if not on her then, from her feelings it soon would be, and that her husband had written her from Missouri, that, she must recollect, that was the time for her monthlies, and if Dr. Bradford thought best, to postpone his coming until it passed off. I postponed, for the present, a minute examination, as I did finally, altogether, for a reason yet to be stated. Prior to my visit, Dr. Ray wrote me, that he had examined the case, and had diagnosed two tumors, in which, as it turned out, he was correct. On account of expected or existing menstruation, I postponed the operation two weeks, but examined carefully the tumors in the abdomen. Over the entire abdomen, fluctuation was distinct, save a space over the left side. The patient said to us then, that the distention was so great that she could not lie down, and the only sleep she got was while sitting up in bed.

On the left side of the abdomen the tumor was more dense, yet a seeming and not to be doubted fluctuation was manifest. Pressing down a little to the left of the mesian line with a continued and jostling pressue seemed to enable you to separate what appeared to be two tumors; or otherwise the cyst must be multilocular. My reason for believing that Dr. Ray's opinion was correct, and that

the case was not a multilocular tumor, was based upon the fact, that when you press steadily and firmly over a multilocular cyst, and you come to the depressions dividing the cysts, you feel the elastic resistance at that point, whilst in the other, there is no defined point on pressure, if two tumors exist, and are not adherent. Both from the account of the husband and patient, the tumor was increasing rapidly; fluctuation was unmistakeably distinct over it; while there was inability to lie down, and the only sleep that was obtained was during the sitting posture, such sleep being of short duration. The question naturally came up in my mind, if pregnancy does, by mere possibility, exist, whether is it possible, from the history of the case, for it to have existed over two or three months, and if so, will the chances of the patient be better to go on with the operation in a few days, or take the chances of her threatening condition for several months longer. I determined at once (no material change occurring), to commence the operation in two weeks. In consequence of this decision, the digital examination, the use of the sound, stethoscope, etc., etc., was dispensed with, but in this, as in many such cases, if, not adopting a certain routine, any accident happens (whether it could have been avoided or not), the public and a few illiterate physicians look upon it as the result of negligence. To those then, who are tender about their reputation, even in the face of certain contingencies, it may be well for them to go through this often useful routine, whether material to the case or not. I returned to Paris, and in two weeks there were no further developments, save that the monthly sickness did not occur. I further learned from the mother, that there was often irregularity of the monthly sickness, with fullness in the lower part of the obdomen, (on the left side) prior to marriage.

With Drs. Ray, Barnes and Fithean, selected from

among the physicians by the patient, (and here I desire to say, that no one of these physicians is in any way responsible for the operation, although no one of them, from the facts elicited, had the remotest idea that pregnancy existed, or doubted that the operation was justifiable), I commenced to operate.

When the incision was completed down to the tumor, a flaccid, watery, and exceedingly thin-walled membranous tumor was found to be spread out over the firmer one on the centre, and to the left. A little manipulation allowed me to shove this back to the right side, and come directly to the more solid part beneath. When this was done, it exposed to view an exceedingly vascular tumor of about the color of currant jelly, rugous and velvety in its external wall. The tumor extended so far up that the incision had to be extended some distance above the umbilicus, in order to examine its surroundings. The tumor when thus exposed, was still seemingly elastic, but it struck me then, (as it has often before, in exploration to complete diagnosis, as certainly fatal in any event,) that I have never seen one of the kind, where even a simple incision was made, if it was punctured, but that it proved fatal, whether an attempt was made to remove it or not. It is neither a fibrous tumor, nor it is a cystic. Sarcoma, a proper name for them, has not been chosen. They are peculiarly vascular and bleed, from the puncture of a needle or the slightest touch, astonishingly. The seeming fluctuation, however, was deceptive as usual, in this kind of tumor, and the trocar four inches in length, was plunged into it. Not a gill of water escaped, but it continued bleeding, so much so, that I drew the orifice, made by the trocar, as closely together as I could, by the "shoemaker's stitch."

A tumor like this I recently encountered in Glendale, Ohio. Drs. Comegys and Blackman had been in consul-

tation in the case. Capt. Haldeman came to Augusta, to have me examine the case, and in connection with Prof. Wood, we proceeded to the examination. After the usual tests and manipulations by both of us, Dr. Wood coincided with Profs. Comegys and Blackman, that it was disease of the uterus, but said candidly, that he was not quite sure, and nothing but an exploratory incision would decide it. I had taken the ground that it was an ovarian tumor, but that it could not be removed in all probability. I made the incision, Prof. Wood assisting, when a tumor like the one I have described, (ovarian), but connected and adherent firmly to the womb, was exposed.

From former cases of this nature, the fact flashed upon me, with a "flesh quake," such as comes at times, that the tumor could not be removed. At once, however, I proceeded to examine the surroundings. Running the hand around on the left side, I found the base of the tumor adherent to the peritoneum and portion of the pubis upon its outer wall; then searching for the womb, it was found unusually enlarged, and as I thought then, the size of a cocoanut, with the left wall of it completely adherent to the tumor; making on that side a common wall. The womb was immediately under, and to the inner side of the tumor, and rising some distance out of the pelvis. At this juncture, I directed Dr. Barnes, who was standing near me, to examine the connections of the womb; he did so, and was, I believe, the only one of the physicians who did. Extending the examination to the flaccid and watery tumor, I found the tumor to be from the broad ligament, and not from the ovary. This tumor was very large, and would have probably yielded, in weight of fluid, twenty pounds. Prof. Simpson, Dr. Wilson Fox and Mr. Spencer Wells, with their large experience, are not correct in asserting,

that such tumors rarely attain the size of the human head; I have a tumor in my office of twenty-four pounds weight, removed in Bracken county, Ky., (Drs. Moore and McMillen present), with the ovaria removed in the normal state.

I did not tap the flaccid tumor, from the fact, that I believed the tumor would prove fatal in any event, and if the patient recovered, it could be tapped, with appropriate remedies for its subsequent removal. I closed up the wound and in two days after, abortion ensued. The poor woman died some twenty-four hours after. I regret for the better satisfaction of the profession, that no post-mortem was allowed. The incision, however, was of such extent, as to establish beyond a doubt, its true character, etc., etc. I confess, that whilst I should like to have done better, I did not know how I could (surgically) have done less.

For the past ten years I have had but little inclination to make a display of my cases of ovariotomy, much as I have had to do with this subject, and much as I have been interested in it. Of the last nineteen completed operations, I have not published one; the success of these, and the former ten, I leave for the present, to the limited area in which they were performed. But now, that I have had one marked case and one shrouded in the peculiar mystery, in which this branch of surgery is occasionally involved, dubious perhaps, as to proper surgical procedure, I hasten to give a faithful account of it.

Dr. Thomas, in his recent and able work on "Diseases of Women," says in regard to ovariotomy: "It is not only difficult but utterly impossible, even for the most capable and accomplished diagnostician to arrive at a certain conclusion. Experienced operators have opened the abdomen under erroneous impression as to the nature of the tumor, and absolutely removed the morbid

growth and the womb from which it grew, before a diagnosis was made."

When the distinguished Sir Astley Cooper and Dr. Highton, of London, fixed a day to tap a patient for ovariotomy, the day before the tapping, the patient gave birth to a child. (Brown's Surgical Diseases of Women, p. 170). It was looked upon then as wonderful negligence; but now that similar mistakes have occurred to the best operators, and that such unpublished cases, are in numbers, legion, it has become an acknowledged fact, that he who has followed the routine of ovarian tumor, diagnostics, with their varied and often complicated phases, and has not met with deceptive occurrences in diagnosis, however well "winnowed his thoughts," searching his scrutiny or strong his apprehension, is some Messiah, whose history is yet to be written.

Lizars, of England, assisted by the ablest men of London, made an incision for ovarian tumor; no tumor was found, but obesity the only result. (Edin. Med. and Surg. Jour., 1824, vol. xxii.)

King, of England, made an incision of eight inches for ovarian tumor. After twenty minutes search in the abdomen; no tumor could be found. (London Lancet, Jan. 1837.)

Prinel diagnosed a case of ovarian tumor; operation; fifth day patient died. The post-mortem revealed a pedunculated tumor of the spleen. (Am. Jour. Med. Sci. for October, 1852.)

Dr. Henry Smith relates a case, where an incision of eight inches in length was made for ovarian tumor; both ovaries were found to be sound, and indurated omentum found to be the source of the error. (Phila. Med. Exp., Jan., 1855.)

Smith and McDowell; patient tapped ninety times; diagnosis considered certain, as to ovarian tumor; no

tumor found, but a mass of intestines matted together, with fluid.

In the Appendix to Cooper's Surgical Dictionary, Lyman relates the case of Boinett, where the best surgeons were unable to decide as to the character of the tumor. The consultation being among the most eventful of the age; consisting of Roux, Blondin, Montaine, of Lyons, Recamier, Jobert, Martin, Solin, and others; opinions were divided as to ovarian tumor, uterine disease and pregnancy. The tumor disappeared after an attack of diarrhœa.

Harvey presented a case to the London Medical Society, where ovariotomy was determined on; patient died suddenly; no tumor found, but an hydatid cyst connected with the liver. (Am. Jour. Med. Sci., October, 1852.)

Dr. Philip Buckner, (originally from Kentucky, and to whom I am indebted for my first sight of ovarian tumor, 1845), diagnosed a case as ovarian tumor; made an incision of nine inches; no ovarian tumor found, but a tumor situated in the mesentery. The tumor was dissected out; the superior mesenteric artery and other small arteries were tied. Patient recovered. This, says Mr. Brown, of Edinburg, is the most hazardous feat of operative precedure I am acquainted with; in which our transatlantic brother has surpassed us.

Dr, T. Gaillard Thomas says, "on one occasion I had a patient presenting all the usual signs of fluid ovarian tumor so perfectly that Dr. Peaslee, Loomis, Budd and myself had no doubt as to the fact; upon incision and tapping, no fluid was found; upon removing the tumor, no one could be convinced that its contents were not fluid, except by sections of the mass."

Dr. Peaslee and Dr. John O'Riley have had similar cases. (Thomas' Diseases of Women, p. 588.)

Dr. Burd; patient had a tumor of twelve and a half

month's growth; swelling irregular and apparently solid; health good; no signs of pregnancy; cyst removed; womb found to be three or four months pregnant; abortion ensued the second day; the placenta gave evidence of their having been hæmorrhage, and this was mistaken for menstruation, in deciding upon the operation. (London Lancet, 1847—Lyman.)

Dr. Frederick Bird cites the case of a tumor of sixteen years standing. Seven years of that time, menses did not occur; pressing necessity required the operation; no pregnancy; recovered. London Med. Gaz., vol. 32.)

Galenzowski; patient had a tumor of two years growth; not removed; seven months pregnant; abortion; lingered some time; ultimate result not known. (Med. Gazette, vol. v., 1829.)

Dr. Twofford; two tumors; one adherent to the womb, the other extra-uterine; the latter containing the limbs and trunk of a child; the head and upper extremities having passed into the general cavity; patient recovered; nothing said of menstruation. (Rankin's Abstract, vol. ix., p. 279—Atlee.)

Dr. Washington Atlee, of Philadelphia, operated for ovarian tumor; patient was two months pregnant; no miscarriage; died of starvation. (Transactions Am. Med. Asso., 1851.)

Dr. Frederick Bird operated for ovarian tumor; no signs of pregnancy; abortion second day; recovered and had a child subsequently. (Medico-Chir. Trans., vol. 30.)

From a hasty reference to my case-book, I give these exceptions to correct diagnosis in ovarian tumor. With a little time, their number might be increased to a small sized volume. They are sufficient, however, to illustrate how difficult it is at times, under circumstances of such complicated contingencies as may arise, to arrive at the undisputed result of accuracy. The best of surgeons, in

this class of diseases, as all surgical history teaches, must learn, that "he that thinketh he standeth, take heed lest he fall."

Our own distinguished operator, Dr. Washington Atlee, with the leading operators of Europe, have actually operated, not only where supposed pregnancy did exist, (deciding between the lesser or the greater risk), but where, after careful investigation, they felt sure in the belief that pregnancy did not exist. In the statistical reports of Sir Robert Lee, Atlee, Lyman, J. Clay and Peaslee, the cases of pregnancy complicated with the ovarian tumors are numerous, and operations for ovarian tumor, (with the undisputed accuracy of leading operators and diagnosticians), have resulted in discovering the complication of pregnancy, after the operation was commenced. These facts should comfort all surgeons who may have the misfortune to make a faulty diagnosis.

It is said by the historian, Macaulay, that the "history of the errors and mal-administration of governments, are essential to the generation which follows;" so it is with ovariotomy; but whether the present case will receive that charitable deduction incident to its eventful history and peculiar collateral concomitants at the time of the operation, it nevertheless, must have its instructive lesson, of increased caution and diligence for the future.

An examination, per vaginam, is by no means a sure test of pregnancy, and if an operator has decided, as has often been done, to go on with an operation from the contingencies which may have arisen, whether pregnancy existed or not, why the necessity for this or other tests?

The medical jurisprudence of the age teaches us how difficult it is sometimes to determine pregnancy, even where there are no tumor complications. I know of an unpublished instance, in this State, where a young lady of respectable family, had swelling of the abdomen, with

such health as to confine her to the bed. A shrewd old lady, who was in the habit of visiting her, unguardedly said, "there is something living inside." The report was thus commenced, and during its gossiping rounds, a grave and able medical board was summoned; on this was a prominent man of this State; after several hours consultation and examination, the verdict was—"a foul slander." The result was, that in three months more, with all the blistering, hot fomentations and poultices, that the genius and skill of this medical board could bring to bear upon the swelling, it would not "down," until nine calendar months had duly passed since the period of its commencement. It then subsided and when the doctors examined the cause of this subsidence, it proved to be the birth of a—male child.

For the past fifteen years I have devoted much time to this branch of surgery. Reading all that I could find, which pertained to it, and avoiding, as far as possible in my operations the "quick sands," which encumber it; but I confess, sincerely, that no case (within my knowledge) which has occurred in any country, has developed the same peculiarity, or is more instructive to the diagnostician. We have here, from patient, husband and examining physician, not a symptom or vestige of pregnancy—menstruation declining and occurring, and reoccurring closely, if not up to the time of the operation; a flaccid, floating tumor from the broad ligament of the right side, spreading over the tumor of the left side, as well as the womb; with fluctuation over almost the entire abdomen, distinct and unmistakeable, and yet, pregnancy existed.

I make the following deductions from this case; that the peculiar condition of the patient, (leaving out her singular history) justified the commencement of the operation, with or without the possibility of pregnancy.

That in no event could the life of that patient have been saved, and only in one, could it have been prolonged, even for a time. Menstruation occurred for some time before the operation, it occurred at regular periods, as is evinced by the expectant period when I first visited the patient, and if the discharge was from the placenta, how strange, that it should have occurred at given periodical periods.

From the relative position of the tumors and the womb, could the most delicately applied tests (taking into account the history of the case), have detected pregnancy; and if detected, by the merest possibility, what should have been done? Leave the patient to the emergency of the encroaching tumors and growing womb, or take the remote chances of the possibility of pregnancy, with its results?

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, February, 1870.

Since it is not my province to entertain your readers with any of the incidents of our late revolution (?), I propose to say a word about the revolution in physiological pathology which we are now threatened with, and which is fast gaining recruits:

The so-called Cohnheim's theory of the migration of the white blood globules (leucocytes) is being verified not only by many of his distinguished countrymen in Germany, but also by physiologists here in Paris; and in spite of M. Robin, who still holds that the pus cell is a spontaneously developed element from a blastema.

M. Hayem presented a thesis to the Academy of Medicine, a few days ago, on the mechanism of suppuration,

confirmative of Cohnheim's opinions. Hayem's experiments were made, for the most part, under the eye of M. Vulpian, who, upon presenting the paper, stated to the academy that he could vouch for its correctness. The most of these experiments, made upon the omentum of the frog, proved the passage of the leucocytes through the capillaries of that membrane and the unaltered condition of the epithelial layer covering the omentum; the epithelium had consequently taken no part in the inflammatory process. The same phenomena were observed in the irritated pulmonary tisssue, i. e., white blood globules were seen traversing the capillaries surrounding the alveoli of the lungs, and no multiplication of the nuclei in the inter-capillary spaces could be detected.

But more than that, M. Vulpian himself, having had occasion to examine the skin of the neck, which, from the application of croton oil, was covered with innumerable vesicles, found the vessels of the derma—adjacent to the epidermis—not only filled with leucocytes in the points corresponding to the vesicles, but he also discovered some of the white globules engaged in the wall of these capillaries; whereas, others, variously difformed, were seen in the act of penetrating between the epidermic cells, contiguous to the papillæ of the derma.

Similar observations have been made upon variolic pustules; and as to the latter, M. Vulpian says: "These observations seem to demonstrate that the pus in the pustules from variola is constituted, as far as the leucocytes are concerned, by extravasated white blood globules, which have gradually made their way through the derma, from the outer surface of the vessels to the aveoli in the malpighian layer. The leucocytes found united in the large cells are doubtless white blood globules which, by a kind of invagination and final incorporation, have penetrated into the protoplasma of the epidermic

cells. (Académic Impériale de Mèdicine, Feby. 15th, 1870).

Virchow's theory of suppuration, consequently, which holds that pus originates from a proliferation of the embryoplastic cells and their transformation into leucocytes, also receives a terrible blow. However, both Virchow and Robin, though quite opposed to each other in their theories as to the origin of the pus cell, still uphold their doctrines; and I heard—only a few days ago—Robin, in his lectures at the faculty, make light of—though bringing no proof against—Cohnheim's researches. There is something so pretty in Virchow's doctrine that it seems almost a pity to attempt its overthrow. Has it not become natural for us to think that the normal cells, that the anatomical element of conjunctive tissue and, indeed, that all the tissues have the privilege to proliferate and form the pus globules; that the pus has its origin in the epithelial cells or the conjunctive tissue, and that it is not a dissolving fluid, but a dissolved substance, i. e., a transformed tissue?

Speaking of Cohnheim's theory, it is well to state that the passage of the white blood globules through the wall of the vessels had been observed long before him by A. Waller, who first described this emigration of the leucocytes in 1846 (Philosophical Magazine, vol. XXIX); insisting at the same time upon the identity of pus, mucus and white blood globules. Cohnheim's work upon the same subject, to which the priority is generally accorded, only appeared in the fall of 1867 (Virchow's Arch. für Pathology. Anat. u. Phys. 40 Band). His first experiments were made upon the non-vascular tissue of the cornea: after having irritated the cornea and injected a solution of anniline into the vessels of the animal (frog) under experiment, Cohnheim found the corpuscles in the cornean tissue infiltrated with blue

granulations (anniline); whence he concluded that the pus in the cornea was nothing more than an accumulation of white blood globules, proceeding from the neighboring vessels, through which—by an amœboid movement—they had escaped, in order to reach the inflamed cornea tissue, through its plasmatic canals. If Cohnheim's observations had ceased here, his theory would never have been accepted, inasmuch as his explanation of the fact observed was incorrect: for while the tissues of the cornea are under way of proliferation, and their nuclei dividing to form embryonic elements—i. e., pus corpuscles in this case, the other elements of the cornea become impregnated with the plasma of the blood, holding in suspension the injected atoms of anniline, and thence the blue coloration of the pus globules in the irritated cornea.

The fact that pus globules are equally well developed in non-vascular tissues, like that of the cornea for instance, has long since been proven by Hoffman and Recklinghausen, (Uber die Herkunft der Eiter-Körperchen, Central blatt. No. 31. 1867), by Stricker, and also by our distinguished countryman, Dr. Norris, of Philadelphia, now in Vienna, (Versuche über Hornhautentzündung, Stricker Studien aus dem Institute f. experim. Pathologie. Wien. 1869).

But Cohnheim's second observations, made upon the vascular tissue, are the most important; and they are those which are now being confirmed by M. M. Hayem and Vulpian. Indeed, the truth of the emigration of the white blood globules through the walls of the blood vessels can no longer be denied; the very authors which contested his theory on the non-vascular tissues, were the first to rally to his second researches on the tissues rich in vessels. By injecting finely powdered cinnabar into the lymphatic sacs, the leucocytes, becoming im-

pregnated with that substance, can be better observed in their emigration through the walls of the vessels. This migration, however, appears less evident in the smaller order of capillaries where, owing to the stagnation of the blood, a great many globules remain imprisoned in the substance of the capillary wall—that is to say, they do not succeed completely in making their escape.

Kremiansky, (Experimentale Untersuchungen über die Entstehung und Umwandlung, &c., Wiener Medizinische Wochenschrift, Jan. and Feb., 1868), whose experiments are equally conclusive on this subject, has been able to follow the complete emigration of the leucocytes through the veins, in the course of 10 or 15 minutes, by cauterizing these vessels with crystals of cantharidine; this enlarges their calibre, thereby producing a slackening in the current of the blood and a stasis of the white globules: these crowd against the surface of the vessel, insinnate themselves into the substance of the wall, and at last succeed in making their escape. Once arrived at the outer surfrce of the vein, they rapidly undergo a change of form, and take the characteristic aspect of pus cells.

This is a short *rèsumè* of the question as it is now regarded by many of our distinguished histologists. If all proves true, we must certainly prepare ourselves for a tremendous revolution in the pathogeny of many diseases.

Talking about German theories, I recently saw an able article in the Monatschrift für Geburtskunde, XXXIV. Sept. Oct., 1869, on the duration of pregnancy, by Dr. F. Ahlfeld, which, though somewhat ont of my line, may nevertheless be of interest to some of your readers, not in possession of the paper.

Dr. Ahlfeld's observations quite agree with those of Faye, Hecker and Veit, as to the date on which conception takes place—on an average, between 9.09 and 10.18

days after the appearance of the menstrual flow, or from 4.33 to 5.4 days after cessation of the same; the latter date (5.4) having been more frequently observed in unmarried women.

From a table of 425 cases in which the date of conception is perfectly known, the author is able to conclude that birth takes place on an average after 269.91 days, (272.82 days for married and 268.68 for unmarried women—4.14 days sooner in the latter). The practical rules to be drawn from the above inquiries are, that in order to arrive at the *date of conception* in unmarried women, such as are delivered in hospitals, 10 days must be added to the first day of the last menstrual flow, or 5 days to the last day of the same; that in order to calculate the *date of birth* for the same class of women, 274 days must be added to the date of conception (determined by the above method of calculation) for primapara, and 271 days for multipara. If a woman has remained in the hospital for some length of time, and has been subject to frequent examinations, birth takes place about two days sooner. In private practice, the date of conception is arrived at by adding 9 days to the first day of the last menses, or 4 days to the last day of the same; while for the date of birth, 274 days must be added to the date of conception for primapara, and 271 days for multipara, These researches agree with the figures given by Naegele.

Professor Dolbeau, one of our safe and solid surgeons—not a man of any extraordinary talent or genius, but a very safe bed-side practitioner, such an one as is more successful in private practice than many of his *confrères* who look to nothing but science, the microscope and globules—invented a modification, some six or seven years ago, for the extraction of stone from the bladder, to which he gave the name of *perineal lithotrity*, and of which the

operative process is as follows: make a longitudinal postero-anterior incision in the median line of the perineum, beginning in front of the mucous fold of the anal circumference, about one inch in length, and comprising nothing more than the skin and the sub-cutaneous cellular tissue. This done, the catheter, (previously introduced into the urethra), is punctured from the posterior angle of the wound by the blunt-pointed dilater, which, upon reaching the catheter in the membranous portion of the urethra, is pushed onwards through the neck of the bladder,* which it dilates sufficiently to allow the introduction of forceps for the crushing and extraction ot the stone.

This artificial canal, thus extending from the anterior aspect of the anus to the bladder, is limited: behind, by the anterior surface of the rectum; in front, by the bulb and the superior wall of the membranous region. Neither the bulb, the rectum, the neck of the bladder, the prostate nor the blood vessels of the perineum are incised in this operation. Dolbeau has thus far operated on 22 cases, with 22 successes I might say, for the last patient, a man 67 years old, died the 15th day of an affection quite foreign to the operation. It was upon the presentation of the pathological specimen that a discussion arose in the Soc. Imp. de Chir., in which M. Trèlat especially took part. Trèlat, since the great Malgaigne is dead, is probably the surgeon who, on account of his ready remarks, sarcasm and cutting criticism, is most to be feared as an opponent, unless it is M. Giraldes, surgeon to one of the children's hospitals, a name doubtless well known to all your readers; a man whose erudition is more vast than that of any other surgeon in

*The dilator is a conical shaped, blunt pointed instrument, presenting six surfaces, which, by a very simple mechanism, separate and dilate the neck of the bladder together with the canal in the perineum to near one inch in diameter.

France. But being a foreigner, (he is a Portugese, born on the island of Madeira, was an officer in the Portugese army, commenced the study of medicine only at the age of 21, became soon eminent in Lisbon as an anatomist and histologist, but left his country, hating it, because injustice had been done him in a competition for the chair of anatomy), not a perfect French speaker, and with a lisp in the bargain, a man of remarkably small stature, always shabbily dressed, with but one eye and that one so imperfect that he can scarcely see to hold a bistoury, he labors under great disadvantages; otherwise he would be the most prominent man in France. However, all these bodily defects have not prevented him from becoming a member (two or three months ago) of the Académie Impèriale de Médicine.

But to return to my subject of perineal lithotrity, and whatever opposition Dolbeau may have encountered, his operation is a good one; one which is bound to be adopted, and one to which I desire to call the attention of the surgeons in America who may not be acquainted with it.

The gradual dilatation of the neck of the bladder injures in no way the organ in its faculty for retaining urine. I have seen Dolbeau operate three times, and am satisfied as to the value of his method. The bulb is not injured; the venous plexus, situated between the two layers of the central perineal asponeurosis, (so largely developed in old persons, in whom these cut vessels remain gaping, like the veins of the diplœ, ready to absorb any purulent particles), is also not injured; neither are the prostate gland, the ejaculatory ducts and the neck of the bladder incised with the bistoury; no blood is lost; in fact, a canal is thus created, about $2\frac{1}{2}$ or 3 inches long, extending from the anus to the bladder, without injur-

ing any of the vital organs of the region. Through the canal, the stone is easily crushed and extracted.

R. R. Good, M. D.

New York, February, 1870.

Thinking that your readers must take some interest in the comparatively new disease, "relapsing fever," now, and for some months past, prevalent in the city, I herewith send you a rèsumè of a lecture upon this subject, delivered by Prof. Alonzo Clark, at the College of Physicians and Surgeons, on February 7, 1870. After reviewing the various epidemics of this disease in England, Ireland, Scotland, etc., and quoting the opinions of the various observers and writers on the subject, such as Drs. Jenner, Henderson, Cormack, Aitken and others, he related his own experience in the matter.

I do not wish to occupy your valuable space in repeating these aforesaid remarks, as I think, your readers will be able to find their substance in the various text-books and monographs in existence.

Prof. Clark said: That in the year 1844 there had been thirty cases of this disease in Philadelphia; those afflicted were emigrants and the persons attacked, belonged almost exclusively to this class of people. In 1854, Prof. Flint, of Bellevue College, then residing in Baltimore, had several cases in that city, fifteen of which had a relaps. With these exceptions, there have been no epidemics in this country.

This disease is very like the typhoid and typhus fevers, but differs from them, principally in the fact that the fever lasts about a week and ends with a severe perspiration; after this apparent convalescence, which is of five to seven days duration, a violent relapse sets in, from which the patient is some time in recovering.

To this disease there is an abrupt invasion, with chill, headache, febrile movement, pain in the back, some vomiting and jaundice in some attacked. The vomiting mentioned above, is in some cases of a black color, there may also be a tenderness in the epigastrium and pain in the right iliac fossa. The temperature rises very rapidly and the perspiration is generally very intense at the end of the first and second paroxysms; this is soon followed by relief. The mortality varies from $\frac{1}{8}$ to $\frac{3}{4}$ per cent.

The first case noticed, arrived at Bellevue Hospital on the 6th of November, 1869. Dr. Harris, the health officer, thinks the disease was imported from London, where it is now prevailing, and believes it was conveyed in some old clothes which were brought from that port.

The complications are: bronchitis, pneumonia, pleurisy and diarrhœa; these are not constant. All observers agree that this disease is contagious. The lesions found are an enlarged spleen, with numerous apoplectic spots, the blood coagulates but feebly, and the coagulum is loose and spongy. The liver is also sometimes enlarged.

The sequelæ are slow convalescence, the rheumatic periods are apt to be protracted, and the patient feels weak for some time. There may be inflammation of the eye, which is much feared, this begins with congestion of the retina, in consequence of which the vision is enfeebled. The conjunctiva is not much affected. This produces severe pain at night.

Up to February 5th, there have been fifty-four cases received and treated in Bellevue Hospital. In the city at large there have been fifty-four cases. One case died on the seventh day. On post-mortem examination it was found that the spleen and liver were very much enlarged. The first weighed three pounds and two ounces, and had many apoplectic spots.

The temperature is at the highest 105½°, and in the re-

lapse, is 106½°; in defervescence the temperature is below the natural standard. The period of incubation is about nine days. The relapse is from three to seven days duration. The intermission is from four to nine days in length. The pulse during the attack may reach the number of one hundred and forty-four in number.

The lecturer then read the history of four cases which had been under his observation. The principal facts observed in these I have related above.

As for the treatment. The disease will run its course, do what you may. But quinine and diaphoretics may be given. Dr. Aitken recommends a mixture of calomel and opium, five grains of the former and one of the latter. If the temperature be high, the patient may be sponged with either warm or cold water.

Care should be taken to prevent uræmic intoxication; to do this the acetate or nitrate of potassa may be given. For the ophthalmia which may be an occasional sequel, Dr. Mackenzie, of London, advises slight depletion, calomel and belladonna.

Through the kindness of Dr. Sproot, of Bellevue Hospital, I have been permitted to transcribe the following cases from the hospital records.

H. M., æt. 24, single, native of South Carolina; admitted on December 28, 1869. Four days previous, on the 25th, he had a chill and subsequent fever, this more or less, until admitted. Now has a high fever, temp. 102½°, pulse 120 per minute.

Dec. 29. A slight pain in the right iliac fossa—the condition the same as yesterday.

Dec. 30. Had a profuse sweat, and now every symptom of fever disappeared. Temp. 97½°, pulse 80.

Jan. 9. Since the last record the patient has been free from almost every symptom of disease. To-day had a chill, lasting for fifteen minutes, this was followed by high fever.

Jan. 11. Febrile symptoms have increased—temp. 102½, pulse 130. Vomiting commenced, and has violent pain in head and back.

Jan 12. High fever—temp. 104°, pulse 132.

Jan. 13. To-day, skin is moist and cool, temperature normal, pulse almost so.

Jan. 24. Since the last notice, patient has recovered with great rapidity, and to-day he was discharged from hospital, feeling well and strong.

Case 2. R. B., æt. 17, single, female; native of Germany. The patient says she has been ill for the last ten (?) days. On admission, December 24, 1869, she was in a typhoid state, with hot and dry skin, and severe pain, of a constricted nature in the throat.

Dec. 25. The patient is no better, the symptoms the same—temp. 103° and pulse 130; in the evening the temp. is 104°, and pulse 126.

Dec. 26. Same as yesterday; temp. 104°, pulse 120; in the evening, temp. 105°, pulse 130.

Dec. 27. The patient is delirious.

Dec. 28. Last night had a severe perspiration; this morning is much better; temp. 98°, pulse 82.

Dec. 30. The patient feels very well and strong, and eats with great relish.

January 5, 1870. Patient doing well, and no ill feeling; on walking, complains of pain over the whole body.

Jan. 12. Quite restored and was discharged to-day.

The treatment in these and other cases, was principally spirit of mindereri and nitrate of potassa, and occasional foot baths. After the end of relapse, gave nourishing food with caution.

Richard C. Brandeis.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

ART. I. HÆMORRHAGIC MALARIAL FEVER. By R. F. MICHEL, M.D., of Montgomery, Alabama.

This pamphlet is a paper read before the Medical Association of the State of Alabama, at its last meeting, and ordered by that body to be published in the New Orleans Medical Journal, in which journal it appeared July, 1869.

As this disease is attracting very great attention, all papers in regard to it deserve special examination. The author gives this definition of it: "A malignant malarial fever following repeated attacks of intermittent; characterized by intense nausea and vomiting; very rapid and complete jaundiced condition of surface, as well as most of the internal organs of the body; an impacted full bladder, and hæmorrhage from the kidneys. These phenomena present themselves in an almost uninterrupted link, attended by remissions and exacerbations. It is a fever peculiar to the Southern part of the United States." Among its synonymes is "new disease." In fact, the author says we find no record of it prior to 1867. Is it a new disease, or simply a malignant remittent fever, which was seen and described before 1867. We think, to prove the latter, it will suffice to call but one author to the witness-stand. Then let us consult the valuable chapters on malarial fevers, by Dr. Maclean, in Vol. I., of Reynolds' System of Medicine. But before doing so, let us note what Dr. Michel gives as the prominent and distinguishing features of this disease. These are the bronzed yellow color of skin; hæmaturia; an obstinate nausea and vomiting. In his chapter on remittent fever, Dr. Maclean says—"Of all the symptoms, nausea and

vomiting are the most constant and the most exhausting. The vomited matters at first consist of any food that may be in the stomach, then of a watery fluid, often in surprising quantity. Soon bilious regurgitation takes place into the stomach, and the ejected matter becomes of a greenish yellow collor, then brown, and finally, in extreme cases, black, resembling the black vomit of yellow fever. The resemblance will be more striking if, as sometimes happens, the skin assumes a yellow tinge, and a hæmorrhagic tendency be evinced. I have seen two cases at Madras, both in officers of the Forest Conservancy department, in which the hæmorrhagic range was most extensive, the patient passing blood from the stomach, bowels *and kidneys*."

Dr. Maclean next goes on to describe what he calls the adynamic form of remittent fever, and a much worse and more fatal form than the "new disease," which he terms, after olders authors, "putrid remittent." Under the head of diagnosis, he says—"If hæmorrhagic tendency evinces itself in the course of a remittent, the blood proceeds from the mouth, nose, *urinary organs* and bowels." Now, if the reader will examine Dr. Maclean's articles, he cannot fail to be convinced that he was well acquainted with Dr. Michel's "hæmorrhagic malarial fever." Nor in the post mortems made have we been presented with anything new. To the condition of the gall-bladder, Dr. Michel invites "earnest attention," and says, although thirteen years of his life have been spent in anatomical investigation, he never found the gall-bladder in such a condition as that described. To say nothing of modern days, if Dr. Michel will even go back to 1852, and consult the 3d edition of Dr. Wood's practice, he will find, on page 273, this language:—"In almost all cases in which the state of the gall-bladder has been noted, it was found full of a dark, sometimes almost

black, viscid bile, not unlike molasses in color and consistence." If he will place this beside his own description, he will see a striking likeness between the two.

We are forced to think that Dr. Michel has signally failed to establish the claims of "hæmorrhagic malarial fever" to rank as a "new disease."

He calls the bile the the "natural stimulus to peristalsis, and says bilverdin *preëxists* in the blood. In the present state of medical science, we are warranted in believing that the alimentary bolus is the natural stimulus to peristalsis, aided, perhaps, by the bile, though Prof. Flint, Jr., doubts the influence of the bile upon the peristaltic movement, and we are inclined to think his views correct. And we think it now well settled that biliverdin does *not* preëxist in the blood, but is made *only by the liver.*

In the number for April, 1868, of the Richmond Medical Journal, we were surprised to find that Prof. Joynes, in his note accompanying Dr. Ghent's letter to him describing this "new disease," should mention, "as a point of special interest, the occurrence of jaundice without any evidence of a *suppression* of the secreting action of the liver." If the bile pigment is made only by the liver, how could it contaminate the blood, unless the liver secreted this pigment, and why should there not be jaundice without suppression of the action of the liver?

Dr. Michel admits a mortality of 50 per cent., and says the disease follows "repeated attacks of intermittent," which must have induced a spanæmic blood-state.

Our author says "we must rely for success upon the administration of calomel and quinine. The former is used for its peculiar impression upon the liver and portal circulation, in addition to its purgative quality, and the latter not only for its tonic, but mainly for its anti-

periodic property." First of all he gives 20 grs. of calomel, and, in six or eight hours, a dose of castor oil, and as soon as full purgation has been secured, he gives 3 grs. of quinine and ½ gr. of capsicum every hour, until 21 grs. of the former and 3½ grs. of the latter are taken; all of this to be administered at least two hours before the expected paroxysm. He prefers waiting until the mercurial purge has finished its work, before proceeding to ward off the next febrile paroxysm." Should the chill recur, he again gives quinine, commencing before the remission or intermission occurs, and now gives 3 grs *everg two hours*, until twenty or more grains are taken. Will this treatment bear the test of scrutiny? What does the present state of medical science say in regard to it? Does it not favor the great mortality that attends this disease? Let us speak of *the remission*, as it is more important *thus* to treat *the disease* than *the symptoms*, though, of course, the latter requires attention, as also the chill which precedes the remission. And first of all, a few words about mercury and its much vaunted cholagogue powers! Is the liver *specially* torpid, requiring a *special* remedy? Is not the brain, stomach, heart, lungs, feet, hands—yes, the whole individual, more or less torpid? Does he not manifest in all his functions lowered vitality? These questions, by the light of modern investigation, must be answered affirmatively. Will mercury overcome such torpor; is mercury a cholagogue? We do not propose here to discuss this question, but would ask, do the experiments of Scott, and the Edinburg Committee, reported through their chairman, Prof. Bennett, go for nothing in establising this question? Must such evidence be set aside for that of the physician who simply says, "my experience" teaches me that mercury *does* act specifically on the liver, and when assked for his *proof*, almost invariably replies—"My senses cannot deceive

me; my eyes *see* the bilious passages that follow the administration of this potent medicine." In diarrhæa, following the ingestion of irritating articles of food, would not his eyes also see the same bilious stools? In both cases, is not the bile hurried down and out, per anum, before time is allowed for its reäbsorption?

It seems to us that the experiments of Dalton and others, show that *food* and *not mercury*, is the natural and appropriate stimulus to bile-flow. Dr. Michel uses calomel to act on the liver, after having said that the bile is "freely secreted, lodged in almost every tissue, except the brain;" and as Dr. Joynes has justly remarked, "deluging the body." The pathologist to-day tells us that the blood of the patient suffering from malarial cachexia contains black pigment, which is said to be chiefly the broken down red globules. Now if we reflect upon the important function of these little bodies in the animal economy, and the destructive influence exercised upon them, as well as the other portions of the blood, by mercury, in the absence of proof of its cholagogue power, even if we admit special torpidity of the liver, ought we to use such an agent except as a purgative, this being the only beneficial action we *know* it to possess in such cases?

But here is something very strange, and must contribute not a little to fatality in this disease. Dr. Michel first gives 20 grs. of calomel, and in 6 or 8 hours a dose of oil; after the operation of which he gives quinine, preferring, as he says, to wait for the action of the medicine before giving *the only remedy* (quinine) upon which we rely *to cure this disease.* Suppose the next paroxysm carries off the patient, would he say the result was due to the *symptoms* he was combating, *or the toxic agent, the causa mali?* And after failing to arrest the disease, having given 21 grs. quinine in the remission in 3 grs. doses *every hour*, he gives in the next remission 3 grs.

every two hours, until twenty or more grains are taken. If 3 grs. *every hour* do not arrest the disease, we can not see why 3 grs. *every two hours* should.

In the summer of 1865, we saw remittent fever with as "uncontrollable and unceasing nausea and vomiting," as our author ever saw in this disease, and which he mentions, under the head of diagnosis, as differentiating the "new disease" from bilious remittent and intermittent fevers. We gave our patients from 24 to 30 grs. quinine in three doses, regardless of remission, which sometimes could not be distinguished, and found this to cure the disease and relieve the nausea and vomiting. But of course we addressed remedies to the stomach in the mean time to palliate these symptoms. When we could not not give quinine by mouth, we gave it by the rectum. In the Autumn of same year, we had some cases of "new disease" which we treated in the same way. We gave purgatives *when required*, but not *beeause* the patient had remittent fever or Dr. Michel's "new disease." Getting the patient *at once* under the influence of quinine, *and keeping him so* for several days, seems to us the *only* successful way to treat the disease, as well as the best treatment for *the symptoms*. Stimulants and nutritive food are sometimes highly important. And when the patient is convalescent, he should take small quantities of quinine and iron daily for a month or more, and live generously. Removal to a healthy climate may become necessary. It seems to us this treatment, directed to *the patient and his disease*, upon which alone rests our hopes of cure, cannot be delayed, in a malady so grave and threatening, without serious detriment to the patient. To lose time so precious, in vain attempts, by a so-called preparatory and palliative treatment, to rectify the "torpid liver," purge away "vitiated secretions," "check the hæmaturia," etc., all symptoms only

of the true disease, is to witness a fatality that a more natural treatment would prevent.

Dr. Maclean, who has a right to speak on this subject, is strong and forcible on this point, and Dr. Flint, in his admirable work on Practice, maintains similar views. The chapters of the former, already referred to, and those on the same subject in the work of the latter, we would commend to the careful study of all interested in this "new disease." We will quote a few lines from Dr. Maclean, bearing directly on this point. "Practitioners who relax in their efforts to stop exacerbation, who pause in the use of quinine, while they apply routine remedies to this or that symptom will have little suceess in the treatment of the worst forms of Indian remittents. My experience has satisfied me that such symptoms are most effectually met *by the means which directly tend to counteract the poison which is keeping up the excitement and disturbing the functions of the organs to which it is conveyed by the circulation.*" He also says: "Practitioners whose choicest weapon against 'bilious' remittents is calomel, are but too familiar with the dark brownish black evacuations of cadaverous odor, the appearance of which too surely indicates that an unfavorable termination of the case is at hand."

Strong indeed is the influence of traditional teaching. But why should it guide us, when not confirmed by modern research? It is true the liver is a highly important organ, and its secretion of great value in the economy; yet we are forced to think it is often terribly persecuted.

We cannot but conclude, with that charming writer, Dr. Anstie, in a late number of his most excellent journal, the "Practitioner," that "the days are rapidly drawing to a close when a practitioner of medicine will be able, without subjecting himself to ridicule, to inform his patient that his complaint is 'all liver,' and requires

sundry doses of mercury, podophylline or taraxacum."

Dr. Michel closes his paper with most admirable advice in regard to prophylaxis, says he "cure, by the administration of proper doses of quinine, your intermittent fevers, and you stop, and stop forever this horrible disease." Then. *a fortiori*, ought not the same treatment to be applicable to the "new disease?" W. A. B. N.

NOTE—On page 413 of the October number of this journal the editor in alluding to Dr. Michel's paper, makes use of the following language:—"It seems probable, from kindred papers on the same subject, that this disease which attracted so much attention at the South during the past year, is chiefly the old malignant remittent fever of these latitudes. When the Southern States were, previously to the war, under thorough cultivation, with the necessarily complete drainage everywhere manifest, this form of fever was almost completely eradicated, but, since the war, these garden spots of the world have lapsed into a condition of comparative ruin. The beautiful, well drained and well cultivated fields have become *jungles*, and it is not surprising that a fever very similar to the jungle fever described by English and French surgeons, should make its appearance. The descriptions, symptomatology, etc., are strikingly similar.—[E. S. G.

I.—A PRACTICAL GUIDE TO THE STUDY OF THE DISEASES OF THE EYE, WITH THEIR MEDICAL AND SURGICAL TREATMEET. By HENRY W. WILLIAMS, A.M., M.D., Operative Surgeon to Ophthalmic City Hospital, Boston. Third edition, revised and enlarged. Boston: Field, Osgood & Co. 1869.

II.—MODERN THERAPEUTICS: A COMPENDUM OF RECENT FORMULÆ AND SPECIFIC THERAPEUTICAL DIRECTIONS. By GEO. H. NAPHEYS, A.M., M.D. Philadelphia: S. W. Butler. 1870.

III.—CHEMICAL EXAMINATION OF URINE IN DISEASE, WITH DIRECTIONS FOR THE EXAMINATION OF THE MOST COMMON VARIETIES OF URINARY CALCULI. By AUSTIN FLINT, Jr., M.D., etc., etc. New York: D. Appleton & Co. 1870.

IV.—A REVIEW OF DR. RUPPANER'S CASE OF LARYNGO-TRACHEOTOMY. By LEWIS A. SAYRE, M.D. N. York: D. Appleton & Co. I870.

V.—ADDRESS OF GOV. CHHMBERLAIN TO THE MAINE LEGIS-

LATURE, January, 1870. Augusta, Maine. Sprague, Owen & Nash. 1870.

VI.—ANNOUNCEMENT OF THE SPRING AND SUMMER COURSE OF THE WESTERN DISPENSARY OF LOUISVILLE. 1870.

VII.—ON THE INFLUENCE OF MENTAL ACTIVITY ON THE EXCRETION OF PHOSPHORIC ACID BY THE KIDNEYS—SILLIMAN PRIZE THESIS. By L. H. WOOD of New Haven, Connecticut.

I.–This manual of Dr. Williams has been previously reviewed in the pages of this Journal. It is only necessary to say, that it has become so useful and popular as to require, in a comparatively short period of time, three editions of the work. As a complete and concise guide for the specialist and general practitioner, this volume deserves entire confidence. The work is small in size, though comprehensive in scope, and is within the reach of even those who were made destitute by the late war. It will, it is hoped, be well supported. The publishers deserve great praise for the care and liberality displayed in its publication.

II.—Dr. Naphey's work will be found superior to publications of its character and class. It is replete with new formulas for prescriptions and has brief and good directions in regard to them. To those who value, and approve of, this mode of practice, this work will be valuable.

It is somewhat strange that formularies should ever receive the sanction and support of the profession. When it is recollected, that age, season, latitude, race, idiosyncrasy, temperament, diet, occupation, etc., all modify disease; that diseases having a similar name differ in almost all else, and that there is as much individuality in each manifestation of any given disease, as there is in the persons who represents it; that each disease, as developed

in each individual, has its stages, its rise, acmè and decline, it is passing strange, that there can be found practitioners, sufficiently numerous, to give an existence to publications of this class; to publications embodying typical prescriptions (of even prominent physicians) for factitious, or transitory or rare manifestations of disease; prescriptions given for the relief of symptoms and complications in diverse phases of disease, which in their entirety, can not be anticipated to recur similarly again, unless by those who have thought less even than superficially upon this important subject. As well give the captain of a ship a formula for trimming the sails of his vessel in each degree of latitude or longitude irrespectively of the modifying circumstances of wind or tide, or an agriculturalist specific rules for the cultivation of any grain, irrespectively of time, season and soil, as to give the physician a formula for the management of any disease, irrespectively of its varied complications and infinite manifestations. Yet the success of all formularies depends upon the assumption, that, given a specific disease, the physician will give the published prescription which some prominent practitioner may have used in the same disease, though in different manifestations of it, and under circumstances infinitely diverse and modified. That practitioner must indeed be an intemperate, or blind, or foolish admirer of some prominent brother, to advise or adopt his prescription given in any one disease, whenever he recognises disease by a similar name, yet manifesting widely dissimilar phases and phenomena. If, as Bennett justly says, "pathology is that science which constitutes the basis of all branches of the medical art," and if the physician (versed in pathology) diagnosticates the peculiar morbid changes occurring in any case, and knows the medicinal agents best adapted to the relief or

modification of those morbid changes, which is proper and rational, to adapt these agents to the individual case, or to consult one of the many formulas for a prescription which some one has given in a disease similar in name, but dissimilar in all else of its character and history.

Dr. Naphey's work is superior to most of the publications of this character now before the medical public.

III.—Dr. Flint's manual is in every respect commendable. It is small; concisely and comprehensively written; practical; accurate; plain and to the point. It will receive an abundant and immediate support.

IV. This pamphlet is intended to show that Dr. Sayre operated for Dr. Ruppaner, and that, in the report of the case, Dr. Ruppaner gave to Dr. Sayre no proper credit for his connection with the case, previously and subsequently to the operation. As the circumstances are detailed, by Dr. Sayre, Dr. Rappaner is placed (without a full explanation) in a very injurious position before the medical public.

V.—This address is valuable to the physician chiefly for the fact that it presents the agreeable spectacle of a Governor of a State actively and really interested in the medical treatment and management of the insane. Governor Chamberlain, very properly says: "Cells and corridors and stone walls are dreary confines for minds broken or strained by the weight of disease, or real or fancied injuries and wrongs. They may be justified on the homœopathic principle, that the proper medicine for a sick man is that which produces the same disease in a well one; for a brief treatment of a sane man in these crowded and gloomy corridors would very soon give him a just title to stay there." The terrible truths embodied in these words should arouse a bitter memory and goad even an insensitive conscience in all who have been in-

strumental (under the guise or sanction of law) in incarcerating any but the incontrollable, the demented, or the maniacal in these horrible, these mind and soul depressing abodes. Gov. C. advises home-like cottages; gardens; flowers; books; cheerful company and companions for those whose minds are overstrained temporarily or permanently by disease, care or trouble. It is noble and good advice and must arouse *true consideration* in the minds of all considerate men. The reviewer is indebted to Dr. B. T. Buxton, of Warren, Maine, for a copy of this Address.

VI.—According to the intelligence communicated in this paper, a complete course of medical instruction is to be given by Drs. C. H. Alexander, A. Given and D. S. Reynolds. In connection with the "clinical department," it is stated, that "a thousand patients (a favorite number in the dispensaries of this city) have been treated for various diseases and injuries, including a great number of surgical operations," etc. This does not speak well for the efficiency of the surgeon of the establishment. Dr. Reynolds is to deliver a complete course of lectures on the anatomy and physiology of the eye. The circular sets forth, that his "experience and skill as an operator *is* so well established, as to render comment unnecessary." The students, of this city, will enjoy superior advantages this Summer in the study of ophthalmic science and art. Dr. Reynolds will indoctrinate them at the Western Dispensary, and Dr. J. M. Bodine, confessedly skilled in ophthalmic science, will elucidate its mysteries at another of the Louisville Dispensaries.

VII.—This is a superior paper. It is laboriously and ingeniously prepared. The conclusions rendered are interesting; diet materially modifies the amount of phosphoric acid excreted by the kidneys; mental labor increases the alkaline phosphates in the urine and dimin-

shes the earthy phosphates; physical labor increases the earthy phosphates and diminishes the alkaline phosphates; the average amount of *phosphoric acid* lost, (taking both the alkaline and earthy phosphates into consideration) is the same; no such increase in the amount of *phosphoric acid*, as would be required by the theory of the disintegration of nervous tissue, during mental labor was observed, though an increase of alkaline phosphates, at the expense of earthy phosphates, was always manifest during active study. The paper as a whole forms a valuable contribution to medical literature.

E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

The Medical Association of South Carolina.—The Association met in the Nickerson House Hall, at 11 A.M. yesterday; President Talley in the chair.

The following officers were present: Dr. A. S. Salley, 2d Vice-President; Dr. S. Baruch, 3d Vice-President; Drs. J. Somers Buist, Recording Secretary; F. Peyre Porcher, Corresponding Secretary; Francis L. Parker, Treasurer.

On motion of Dr. Buist, the reading of the minutes of last meeting was dispensed with, as printed copies had been distributed to the members.

On motion of Dr. Buist,

Resolved, That a Committee on Credentials, to consist of one from each county represented, be appointed by the Chair.

The President appointed the following gentlemen: Drs. J. J. Wardlaw, Abbeville; R. A. Kinloch, Charleston; S. Baruch, Kershaw; A. S. Salley, Orangeburg; B. W. Taylor, Richland; J. W. Spearman, Newberry; T. T. Robertson, Fairfield.

On motion of Dr. Kinloch, a recess of half an hour was taken to allow the committee to prepare a report; after which the committee reported the following members and delegates present:

Delegates—Abbeville—J. J. Wardlaw, W. C. Wardlaw; Charleston—R. A. Kinloch, J. Somers Buist, Francis L. Parker, F. Peyre Porcher; Kershaw—S. Baruch; Orangeburg—A. S. Salley, O. N. Bowman, W. T. C. Bates; Richland—B. W. Taylor, S. Fair, Geo. S. Trezevant; Newberry—J. W. Spearman, R. C. Carlyle; Fairfield—T. T. Robertson, C. H. Ladd.

Permanent Members.—Drs. John T. Darby, R. W. Gibbes, and A. N. Talley.

The question whether members of the former Medical Association remain, until formal resignation, members of the present body, was decided affimatively, on the ground that the former society is revived in the present one.

Dr. Darby proposed for election, as an honorary member of the Association, Dr. Maximilian La Borde, of Columbia, who was elected, and, on motion of Dr. Fair, a committee, consisting of Drs. Darby and Fair, was appointed to inform Dr. LaBorde of his election, and to invite him to attend.

Dr. E. S. Gaillard, of Louisville, Kentucky, and Dr. T. Gaillard Thomas, of New York city, were proposed and elected honorary members.

Drs. John Lynch, W. P. Geiger and C. H. Ladd were elected members of the Association.

The President, Professor A. S. Salley, then delivered an address to the Society, "on the Progress of Medical Science."

The Association received the reports of the Treasurer, the Secretary and the Committee on Accounts, Ethics and Publication.

Letters of resignation were received from the following members, and resignation accepted: Drs. R. Lebby, Sr., Manning Simons and H. W. DeSaussure.

A communication was received from Hon. R. W. Barnwell, inviting the members of the Association to visit the University library.

On motion of Dr. Darby, it was

Resolved, That the thanks of Association be tendered to Mr. Barnwell, and that the hour of 9.30 A.M. to-morrow, be appointed for the visit.

An invitation from Dr. Parker to visit the Lunatic Asylum was submitted and accepted with thanks. It was

Resolved, That the visit be paid at 4 P.M. to-day, and that Dr. Parker be advised of his right, as a member, to attend the meetings, and unite in the deliberations of the Association.

The President read a letter from Dr. John Douglas, of Chester, stating with regret his inability to attend the meeting, in consequence of a recent severe attack of illness.

On motion of Dr. F. Peyre Porcher, it was

Resolved, That in consideration of the age and long and honorable services of Dr. Douglas as an officer of this body and in the medical profession, the Corresponding Secretary be instructed to express to him by letter the regret felt by the Association at his illness and his inability to be present.

Dr. Darby read a very interesting paper on "Hair Sutures," with abstracts of a number of cases, several of which were illustrated with photographs and drawings.

On motion of Dr. Buist, it was

Resolved, That the paper just read be referred to the Committee on Publication, and that Dr. Darby be requested to furnish abstract of the cases, to be transmitted to the same committee.

The address of the President was also referred to the Committee on Publication.

A resolution, by Dr. J. J. Wardlaw, to reduce the annual fee to three dollars, and a resolution, by Dr. B. W Taylor, providing for the election of honorary members by ballot, were, on motion of Dr. Buist, made the special orders for 12 and 12.30, respectively, this morning.

On motion of Dr. Buist the Committee on Nominations was instructed to report to-day. The President named the following gentlemen as the committee: Drs. W. C. Wardlaw, Porcher, Baruch, Bates, Fair, Carlisle, Ladd and Darby.

Dr. T. T. Robertson was elected President.

[*Columbia Guardian.*

In compliance with a resolution of the National Convention, for revising the Pharmacopœa, directing that the names of the Delegates announced to the President of the Convention, as having been appointed to attend the Convention to meet on the first Wednesday of May next, at Washington, be made public in the newspapers and medical journals in March: the following names of Delegates are now published with the date at which their appointment was made known to the President, priority being given to the delegates in the order of their announcement:

May 27, 1869. *St. Louis Medical College.*—A. Linton, M.D.; J. B. S. Allegne, M.D.

June 6, 1869. *Maryland College of Pharmacy.*—Wm. G. Thompson, M.D.; J. Faris Moore, M.D.; Louis Dohner, M.D.

June 6, 1869. *Missouri Medical College.*—Charles O. Curtman, M.D.

June 25, 1869. *St. Louis College of Pharmacy.*—O. F. Potter, M.D., Hubert Primm, M.D.; Eugene L. Marsot, M.D.

June 25, 1869. *Chicago College of Pharmacy.*—Albert E. Ebert, Henry Biroth, C. Lewis Diehle. *Alternatives*—Jos. W. Mill, F. Mahle, M.D., Louis Strehl.

August 9, 1869. *Jefferson Medical College.*—John B. Biddle, M.D.; B. Howard Rand, M.D.

Dec. 9, 1868. *Medical Society of the District of Columbia.*—Thos. Antisell, M.D.; C. H. Liebermann, M.D.; B. F. Craig, M.D.

Jan. 11, 1870. *Medical College of Virginia.*—J. S. Wellford, M.D.; R. S. J. Peebles, M.D.

Jan. 20, 1870. *Massachusetts College of Pharmacy.*—Geo. F. H. Markoe. Thos. Dolliber.

Feb. 1, 1870. *Medical Society of the State of New York.*—Caleb Green, M.D.; Wm. Manlius Smith, M.D.; Edward R. Squibb, M.D.

Feb. 3, 1870. *College of Physicians of Philadelphia.*—Geo. B. Wood, M.D.; Robert Bridges, M.D.; H. C. Wood, MD..

Feb. 15, 1870. *College of Pharmacy of the City of New York.*—Wm. Hegeman, Wm. Neirgard, P. W. Bedford. *Alternates*—Theobald Frohnein, Augustus H. Weismann, Geo. C. Close.

Feb. 16, 1870. *National Medical College, (Medical Department of Columbia College, Washington).*—George W. Dore, M.D.; John C. Riley, M.D.;

March 10, 1870. *University of Pennsylvania, Medical Dep't.*—Joseph L. Carson, M.D.; Robert E. Rogers, M.D.

March 16, 1870. *Philadelphia College of Pharmacy.*—Wm. Proctor, Jr, John M. Maisch, Alford B. Taylor.

The following letter has been received by the President, offering the use of the halls for the meeting and subsequent sitting of the Convention:

1407 New York Avenue.
Washington, D. C., Feb. 16th, 1870.

Prof. George B. Wood, M.D.:

My Dear Sir:—It affords me pleasure to inform you

that, at a recent meeting of the Faculty of the National Medical College, (Med'l Dpt. of Columbia College), the following resolution was unanimously adopted:

Resolved, That the dean be instructed to tender to Prof. George B. Wood, President of the Convention, to revise the Pharmacopœa held in 1860, the college buildings for the meeting to be held in May, 1870, and to make necessary arrangements therefor.

The building is centrally located, in the vicinity of the principal hotels, and is well suited for the purpose.

Respectfully,

Your obdt. servt.,

JOHN C. RILEY,

Dean of Faculty of National College.

The insertion, by request, of the proceedings of the South Carolina Medical Association, and the notice in regard to the Pharmaceutical Convention, abbreviates necessarily the miscellaneous department.

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

The new medical society in the District of Columbia, chartered by Congress, gives equal rights and privileges to those of every color and of each sex.

Prof. J. D. Rankin, of Galveston College, objects to the complex terms, intermittent, remittent and congestive, as applied to fevers; he proposes to simplify this technology by the use of the following brief names: "Passive hæmato-neuro endangitis gravis; hæmato neuro endangitis gravior; hæmato neuro endangitis gravisimus." It is the characteristic of genius to simplify all it touches.—*N. Y. Med. Gaz.*

Following Sir James Simpson's lately published defense of chloroform when properly and carefully administed, comes the report of the death of a young woman to whom that anæsthetic was given, by its distinguished discoverer himself.

The Lancet reports the first death on record from the inhalation of chlorine gas in Dublin. "On post-mortem examination, the chlorine was detected in the ventricles of the brain, and less perceptibly in the bronchial tubes."

The London Surgeons now term housemaid's knee the ritualistic knee.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Professional Association with the Negro.—The issue which has reached all classes and professions has at last been presented for analysis and disposition to the medical profession. It makes its appearance with the following history.

It seems that, for very many years, there has been but one Medical Society in the District of Columbia. A committee of this body constitutes an Examing Board, before which all physicians seeking to practice in the District must apply for examination and license. The license gives the right to practice and the legal right to collect claims, but not necessarily a right to membership in the Society.

During the past year, certain negro physicians presented themselves before this Board and, passing creditable examinations, were granted the usual license. They next sought membership in the Medical Society. The members of the Society, after duly examining the whole question, decided not to admit them. The reason for refusal was simple; that whether their Society was strictly parliamentary in organization and action or partly parliamentary and partly social, membership necessitated an individual association that was personally unpleasant to a majority of the Society. So the application of the negro physicians was rejected. A minority of the Society then seceded, and, with those who had been rejected, organized a separate and distinct Society. This so far was all as it should be. Those who preferred not to associate even thus much with the negro exercised the unquestionable right of the ballot, and the negro was rejected in his application for society membership.

Those who did not object to Society association with the negro, united with him, and organized a distinct Society which has, it is believed, been duly chartered by Congress. This new Society will send its delegates to the American Medical Association, in May, and, according to the provisions of the organic law of this Association, these delegates will claim a right to be admitted to membership and fellowship. Will this claim be granted? Will the negro physician be admitted to membership in this representative organization of the physicians of America?

The officers of these Societies have sent copies of their official papers and circulars to the editor of this Journal (in common with the editor of other medical journals), and have asked that this matter be presented to the public. All other journals have failed to publish anything on this subject which will commit them to either side of the question. It would be equally easy for this Journal to be non-committal; "to stand upon the fence" (to use a vulgarism) and wait for developments, before determining upon which side to alight. Would this, however, be right? Have not those who sustain a journal which should be an organ of the profession a right to demand that this, and all important questions affecting the character and the future of the profession should be definitely and decidedly presented?

There are some Medical Journalists in America who state that they make their journals strictly practical and in the prosecution of this, their assumed province, seem to believe that a journal is practical, if it only disseminates clinical matter, prescription recipes, a few original papers, with limited miscellaneous extracts from current medical literature. If the stripping from a journal so entirely all individuality as to leave it no more vitality or personality than a letter-file or a storage closet

be to render it practical; if hospital records and miscellaneous prescriptions, etc., chiefly represent the practical field in journalism, such conceptions and such manifestations of these conceptions are entirely correct. If, on the contrary, the chief pride and boast of medicine that it is a true science and rests on the broad basis of all collateral and coördinate sciences be true; if the science of medicine embraces equally fully all that gives increased health and longevity, taking into its being and assimilating all that is grand and noble and true in philosophy, in physics, in philanthropy, in the physical and psychological man; if the domain of the physician be not limited to the dull pharmacy of the gallipot and the sad spectacles of the hospital; if physicians be often the best naturalists, the best philosophers, the best philanthropists, true psychologists and progressive scientists; if such investigations form the *practical study of medical men*, how can medical journals (the organs and exponents of the physician) be regarded as practical, when in their literature they reject the consideration of these great subjects and confine their readers to a dull, monotonous, bald recapitulation of the routine facts and records of a plodding professional life? Where journals reject the vast material specified, material so valuable and interesting to the profession, on the ground that such journals are practical in their scope and aspirations, it is but consistent that all questions relative to the educational, progressive and associate relations of the profession should be rejected also; it is therefore consistent if not natural that these works should refuse or fail to present to the profession the interesting question forming the subject and object of this article. It is but reasonable however, and to be expected, that the medical journals of the country should entertain at least *some* opinion on this subject, and advocate *some* action in regard to it.

There can be no question of the fact that, according to the organic law of the American Medical Association, delegates from all chartered medical societies in good standing, have a right to be admitted as members of the Association. No one can question this fact, for it is based upon existing organic law. Will these delegates be admitted? Should they be admitted? Physicians more frequently than all others have daily to recognise and to establish a practical distinction between what is right and what is expedient. The highest moral authority enjoins an observance of this distinction upon all men. While therefore it is proper to admit the right of the negro delegates from the new Society to fellowship in the American Medical Association, the practical question is, is it expedient to grant them this right. No one who is disposed to try this question in the Forum of either common sense or justice can possibly pretend that the granting of this right would be expedient. Why? Because the admission of these negro delegates would be a wanton and reckless disregard of that principle of action which subordinates all other principles of action, save those springing from a proper observance of the claims of honor and truth; that principle of action which is paramount and should be paramount with all bodies, whether individual or corporate; the principle of self preservation. It can not be doubted by any one of sound judgment, that the admission of these delegates would cause a disruption of the American Medical Association. If it did not destroy the whole body, it would destroy certainly one half of it, and most probably the greater part of it. Such an admission on the part of the Association, would be no more nor less than corporate suicide; it would be to destroy the life of the body. It is manifest, therefore, that the admission of these delegates can not consistently or properly be urged by the

friends of the Association. It is equally manifest that the especial friends of the negro can not advise him to a course so selfish in its objects and so fatal in it results. That for these and other reasons, the negro delegates from this new Society, or any other Society, should be and will be rejected, can not be doubted. Societies and Colleges will so instruct their delegates.

It may not be generous or noble to refuse help to those who need it; it may be in derogation of man's highest instincts to suppress the impulse to help and protect; but man is not the creature of these impulses only, there are other impulses equally natural and far more overwhelming in their nature; impulses before which all are forced to bow, as before a dictator; the impulses controlling most absolutely all men in their physical and psychological associations. Some few may be so constituted as to herd acceptably with the negro, but the great mass of the Caucasian race have that peculiar indestructible instinct which revolts at the mention even of such association. These last will be just to the negro; they will be true to him; they will protect him; they will give him every legal right to which he is entitled; but they cannot and will not make him an "associate."

It may be said that the legal profession is more generous; that it admits the negro to professional fellowship in the courts of justice. The answer is simple—such fellowship is the result of necessity. Governments, Federal and State, can not create separate courts of justice for the convenience of negro attorneys; these must practice in existing courts, or in none. Again, the pulpit does not grant a fellowship which if springing from charity should be manifested by its advocates and teachers. Whatever other professions and other classes however may do, the medical profession is competent to decide this question for itself, and the writer feels no hes-

itation in declaring that this decision will very properly be against PROFESSIONAL ASSOCIATION WITH THE NEGRO.

EDITORIAL BREVITIES.—A new journal is to be established at St. Paul, Minnesota, by Dr. A. J. Stone.——A Dispensary has been established in New York, for diseases of the throat and chest. Drs. A. Ruppaner and B. W. Dudley are the attending physicians, with Drs. Jas. R. Wood and J. J. Crane as consulting physicians.——The Summer school of the Medical University of Virginia, in Richmond, is in active operation. Drs. M. L. James, I. R. Page, W. H. Taylor, F. B. Mathews, I. G. Skelton, George Ross, I. E. Williams and Z. B. Herndon, constitute the Faculty. Entire fees, $55 00. This school deserves support.——In the case of amnesia, (by Dr. Bartholow), published in this journal, the sphygmographic tracing illustrations were in the numerical order of their appearance reversed: the second "cut" should have appeared first.——Prof. Holloway desires to acknowledge his indebtedness to Dr. Whitehead, of New York, for the use of the "cut" of his urethrome, in the article upon lithotrity and lithotomy, recently published in this journal.——The suggestion made, for amusemet, in the last issue of this journal, that, as we have gynæcologists accepted as those who treat the diseases of the female, it would be no more wrong etymologically to term those who treat the disease of the venereal and urinary organs in the male, anthropologists. The suggestion meets with favor; but an exchange suggests that, as the term anthropologist is generic, (including male and female), this class of specialists should be termed andrologists. This is a good amendment, but it can be further improved: those who treat the diseases of females may be termed gynæcologists; those who treats diseases of

males andrologists; while those ambitious few who aspire to both classes of cases should receive an appropriate reward in the dignity of their title; these only should be termed anthropologists. Any suggestion is welcome which serves to attract attention to the absurd title—gynæcologist.——It is a pleasure for the writer to acknowledge his indebtedness to the masterly analysis of Clémenceau's Anatomical Elements, made by Dr. J. L. Cabell, of Virginia. This acknowledgement should have been made in the Review of "Beale's How to Work the Microscope," but the statement escaped attention at the time.——Those who would give a superior and most palatable beef tea to the sick should purchase the extract of meat advertised by Mr. E. Fougera, in this Journal. It has been carefully tried even as a soup for an ordinary dinner, and has been most acceptable and satisfactory.——It is amusing, while it is at the same time deplorable, to see the number of medical journals which are being advertised as the "best," or as "having the largest circulation," or as "offering the best medium for advertisers." Such devices are expected in a vender of "challenge blacking" or patent razor strops, but surely they are disgraceful when adopted in the pages of a scientific journal. What man of ordinary regard for an even respectable observance of the laws of propriety could proclaim himself or his creations the "best," without expecting and deserving a forfeiture of the respect of those respectably constituted? What editor can tell whether his "circulation is largest," or whether he truthfully offers in his work "the best medium for advertisers?" The last device is to state in this connection that the owners of a publication have the names of eight or ten thousand physicians, while the actual issue of the work is but a small fraction of this amount. Such devices as those described, and many more similar, may be

tolerated in questionable trade circles, but they are intolerable when adopted for profit in medical publications. ——It is refreshing in this connection to turn for relief from this huckstering for medical profit to the recent reply made by Nélaton to Patti, when this distinguished contatrice offered the great surgeon a munificent fee for an operation performed; he returned the gift and said, with the charming politesse which characterizes the Frenchman, "I am already indebted to la diva for innumerable notes."——The valedictory delivered to the graduating class of the Louisville Medical College by Prof. S. P. Breckinridge was much admired, and was certainly a superior production. Prof. Parvin delivered the valedictory to the graduating class of the University of Louisville. This addresss is spoken of in kind and pleasant terms by those who had an opportunity of hearing it.——It seems that uterine polypi are mistaken for inverted uteri, as well as inverted uteri for uterine polypi.——It can scarcely be credited, that the art of photography has been carried to such perfection, that in the space represented by a circle 1.32 ot an inch in diameter, there can be photographed the Lord's prayer in full. There has been sent to the editor of this journal a micrograph which does not occupy a space larger than a circle 1.32 of an inch in diameter, and yet, in this circle, there is photographed the Lord's Prayer entire; and surrounding it, (all in the circle mentioned), there are excellent likenesses of fifteen prominent Americans, with their names printed clearly and legibly below. Under a Craig microscope, this infinitessimal micrograph is read with ease, and the likeness of each individual can be promptly and easily recognized. The editor is indebted to the manufacturer of the Craig microscope for several of these micrographs. They are all of about the same diameter. Some of the best of them are as fol-

lows: Stuart's Washington, Christmas Eve in Camp, Christmas Eve at Home, The Greek Slave, The Graces, etc., etc. The different urinary deposits, trichinæ, morbid elements, etc., are detected with facility.——The Nashville Journal for March comes as an exchange, but it is *most definitely rejected.* It contains a suggestive, but pitiable wail: it hopes that the physicians of that State, "who trod bare-foot over the burning lava of war, will not allow the Journal to perish." That journal tried for years to destroy the writer of this paragraph; well may its unhappy editor be asked, as Hamlet asked the poor clown, "*How long have you been a gravemaker?*" "Alas! poor Yorick! a fellow of infinite merriment; *he hath borne me on his back a thousand times*; where be your gibes now; not one now; quite chop-fallen."——— It is important for the Faculties of all Medical Colleges, to remember, that a convention of delegates from the Medical Colleges of the United States is to be held in Washington, on the first Tuesday in May. It is hoped and expected that this Convention will arrange the educational questions so important and interesting to the profession; that, as one of the results, Medical Colleges will be induced to make the character of the instruction and not the amount of fees charged, the basis of competition. It is believed that *all* of the Medical College Faculties really desire to adjust this question in a fair and generous way, and it is to be earnestly hoped, that they may be so fortunate in doing this as to establish among themselves that laudable feeling of amity and kindness, so much desired by all who have at heart the honor, peace and prosperity of their profession.——A correspondent of the Cincinnati Lancet and Observer reports, on the authority of Prof. Elliot, of New York, a case of uterine fibroid cured by muriate of ammonia.———The ether and chloroform controversies have been furiously

renewed; Dr. Bigelow, of Boston, claiming everything for America, and Sir James Y. Simpson ridiculing Bigelow's claims and claiming almost everything for Edinburgh. This question has aroused Boston; her people are now striving to erect a monument to the charlatan Morton, while the Gynæcological (sic) Society of Boston ascribes the merit of anæsthetic discovery to Jackson. In the heated condition existing among the angry contestants, it is well to recall the witticism of Holmes, when it was undetermined what should be be form and character of the monument to be erected by Boston in memory of the great discovery of anæsthesia; place, said he, two statues on the monument, Morton here, Jackson there, and beneath this inscription—To Ether.———

The subscription list of this Journal is rapidly increasing. The large edition for February has been completely exhausted. The editor will give fifty cents for each copy of the February Journal sent to him, and will thank those who send them.

BOOKS AND JOURNLAS RECEIVED.

Physiology of Man; Secretion, Nutrition, Movement. By Austin Flint, Jr., M.D., New York. D. Appleton & Co. 1870.

Disease of the Eye. By H. W. Williams, M.D. Boston: Fields, Osgood & Co. 1870.

Chemical Examinations of Urine. By Austin Flint, Jr., M.D., N. York. D. Appleton & Co. 1870.

Modern Therapeutics. By G. H. Napheys, M.D., Philadelphia.

Reduction of Dislocation. By W. Warren Green, M.D. 1870.

Influence of Mental Activity on Excretion of Phosphoric Acid. By L. H. Wood, M.D. 1870.

Laryngo-Tracheotomy. By L. A. Sayre, M.D. 1870.

Address of Gov. Chamberlain of Maine. 1870.

Physical Basis of Life. By T. H. Huxley, LL.D., F.R.S. Charles C. Chatfield: New Hauen. 1870.

Relaxation of Pelvic Lymphysis. By F. G. Snelling, M.D., New York. 1870.

Historical Letter of Sir James Y. Simpson on the Introduction of Anæsthetics. 1870.

Proceedings of the Texas State Medical Association. 1870.

TROUSSEAU.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. IX. MAY, 1870. No. 5.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—ON THE THERAPEUTICAL EFFECTS OF THE HEALING SPRING WATER, (VIRGINIA). By M. H. HOUSTON, M.D., of Richmond, Va.

The increased number of invalids, who annually resort to our Mineral Springs, for the benefit of their health, indicates a knowledge of the special properties of these waters as of much importance to the medical practitioner. The ideas promulgated and usually entertained, with regard to the medicinal properties of most of the springs in this country, are for the most part, vague and unsatisfactory. Perhaps a majority of those who visit the mountains of Virginia, go there without any definite ideas of how or where they are most likely to be benefitted. They are often told that if one spring does not suit their case, they may resort to another, and without giving any one a fair trial, they are led to divide their time among them all, without deriving much benefit from any. Such cases are unfortunately of very frequent occurrence, and such a condition of things can only arise from ignorance, on the part of the medical advisers, of the specific medicinal properties of the water, they recommend for trial to their patients. There is no source from which such knowledge can be obtained with accuracy.

A knowledge of the specific effects of any water, and of the peculiar forms of disease, to which it is applicable, can only be acquired by long and careful observation of its effects on those immediately under the direction and care of a competent medical observer. The resident physicians at the different watering-places must be in possession of much of this knowledge, and it becomes important to the professional public throughout the country, that this knowledge should be diffused through the medium of our medical journals. A concise article, setting forth the peculiar properties of each mineral water, and its applicability to the cure of particular forms of disease, (just as an essay on any other article of the materia medica), would supply what now appears to me to be a great desideratum. To supply this desideratum, to some extent at least, as far as the Healing Springs in Bath county, Virginia, are concerned, is the object of this communication.

There is nothing very striking in the sensible properties of these waters, and nothing to indicate their value as remedial agents, nor is there anything in the results of analysis to account for their curative properties. The same remark applies with equal force to nearly, if not to all, mineral waters. The same weight of solid ingredients, obtained from a gallon of water, in the same proportions, when dissolved in a gallon of distilled water, will, when used in like quantities, during the same period of time, and under the same circumstances, fail to produce a tithe of the effects, caused by water taken from the fountain head. The ingredients discovered, must therefore exist in unknown combinations, which impart to them increased power, or the water itself must contain some ingredient or ingredients, not yet revealed by analysis.

Owing to the efficacy of the Healing Spring water, in

curing various chronic and obstinate cutaneous eruptions, it was, for a long time supposed to contain arsenic, in some of its forms; but none has even been detected, and from my observation of the modus operandi of the water, I am disposed to think that none does really exist. Its effects, as will be more fully shown hereafter, are, to some extent, directly the opposite of those produced by any of the salts of arsenic.

There are two springs at this watering-place only a few yards apart; the waters of which differ but little, either in their sensible properties, or in the results of analysis. The uniform temperature of the water, at all seasons of the year, is adout 85° Fahrenheit. In taste it differs from ordinary free-stone water only in imparting to the palate a slightly unctious and magnesian taste. When reduced in temperature, it is by no means unpleasant, and generally sits lightly on the stomach. Its specific gravity is 1000.23, and according to the analysis of Professor Aiken of the University of Maryland, each gallon of the water from the old spring contains:

Carbonate of lime	17.901	grains.
Carbonate of magnesia	1.246	"
Carbonate of iron	.070	"
Sulphate of lime	1.322	"
Sulphate of magnesia	7.249	"
Sulphate of potassa	2.208	"
Sulphate of iron	.180	"
Sulphate of ammonia	.230	"
Chloride of potassium	.236	"
Chloride of sodium	.270	"
Silicic acid	1.894	"
Organic acid, probably crenic	.860	"
Carbonic acid	2.198	"
Sulphuretted hydrogen	.0005	"
Bromine, Iodine } a trace of each.		
	35.86405	"

The new spring, with a temperature of 88° Fahrenheit, contains a few more grains of the same solid ingredients,

and from both waters nitrogen and carbonic acid gas are disengaged in small quantities.

It is a very common remark, and the opinion is entertained by many, that a visit to the springs does good more by the change of air, and the relaxation from business cares which attend it, than from any medicinal properties of the water. This may be true to some extent and the results of analysis, as well as the absence of any sensible properties, in the taste of the water, might indicate the Healing Springs as being especially obnoxious to this remark; and yet independent of my own observation, there is one fact which proves beyond doubt that the water itself is endowed with positive medicinal properties of a very high order. It is notorious that very many of the most noticeable cures, effected by the use of the water, have occurred in individuals from the immediate neighborhood who were born and raised in the midst of the mountains. So numerous and so varied were these cures, that it was called in ridicule by its enemies the "All Healing Springs." A portion of which name it retains to the present time.

In the use of all mineral waters, we must be guided, not by the results of analysis, but by actual observation and experience. Judged by these tests the Healing Spring water will be found to be *slightly hypnotic*, *sedative*, *diuretic*, *diaphoretic* and *alterative*.

Unless it be in exceptional cases of very rare occurrence, it produces no cathartic effect; indeed in a majority of cases it rather tends to produce constipation. Nor is it possessed of any very direct tonic effect, the small quantity of iron it contains being scarcely adequate to this purpose. The invigoration which follows its use is mainly due to its alterative power, and by alterative I mean a rapid transformation of the tissues in every part of the body; a transformation, which by absorbing and

eliminating the old tissues, creates a keen demand for the materials to supply the deficiency in the organism. The alterative effect is secondary, the primary being sedative and hypnotic.

In ordinary cases, the properly regulated use of the the water is followed by a decided inclination to sleep. This is quickly observed, even by those who have not been taught to expect it. For the first four or five days the weight of the body increases at the rate of about a pound a day, and if the weight of the individual had been previously much reduced, this increase continues until the normal standard is attained. During this time the climinative process seems to have been fairly inaugurated and in those not emaciated, the increase of weight is arrested, and sometimes even there is a slight diminntion of weight for a few days. During this period the diuretic and diaphoretic properties are manifested, the secretion from the kidneys becoming quite free, and the skin acquiring a soft, pleasant, velvety texture, corresponding with a similar change, which takes place in the mucous membranes in every part of the body. With these evidences of elimination, there arises a demand for an increased supply of nutritious material; and with an improved appetite, there exists a correspondingly increased power of digestion. When the use of the water is properly regulated, the ingesta and egesta maintain a steady equilibrium, and whilst the products of disease are taken up and carried out of the system, their place is supplied by the pure products of healthy assimilation. Whilst under these circumstance, the weight of the body may not be increased, it is yet evident that its constitution must be steadily improving in health and vigor. Add to this the tendency to sleep, which generally accompanies the use of the water, and we have a fair estimate of its general constitutional effects

There is one fact, however in the history of its general properties, which is worthy of special consideration. It has been stated that it acts freely as a diuretic. This diuretic effect is due, not to any directly stimulating action on the kidneys, but to its sedative or its combined sedative and alterative effects. The idea of a purely sedative diuretic is not inconsistent with the recorded facts in medicine. Digitalis is considered a pure sedative, and yet it is ranked among the diuretics. At all events, that the Healing Spring water acts as a sedative, in causing diuresis, seems to me to be proved by the fact that it controls the diuresis produced by those agents universally acknowledged to be stimulating.

A gentleman with acute urethritis made a very free use of the water during several days—both internally and as an injection. It acted with unusual freedom on the kidneys, and had the effect of subduing the inflammation, but being desirous of using what had formally proved efficacious, he procured and took the compound paste of cubebs and copaiba. Within twelve hours after commencing the latter, the use of the water being still continued, the diuresis was checked, and the urine reduced in quantity, even below its normal standard. I now requested him to discontinue the use of the water, which was done, and under the use of the paste alone the renal secretion again became abundant. I now directed him to resume the use of the water. The water now arrested the effects of the paste, and the urine became normal in quantity and high in color, again to become free under the use of the paste alone. This would seem to indicate the existence of a direct antagonism between the water and the stimulating diuretics. The same thing happened in another patient, to whom I thought proper to prescribe some spts. of turpentine.

Another peculiarity of this water is its generation of a

fine silken looking moss, which is much celebrated as an application to certain forms of ophthalmia, and to old and irritable ulcers. It has also been used with benefit in certain forms of eczema, and other diseases of the skin attended with inflammatory irritation. This moss is generated rapidly in large reservoirs prepared for the purpose, and the supply is generally equal to the demand; although it sometimes happens that the whole of it will disappear in the course of a single day or night, to be regenerated almost as rapidly as it was destroyed. The particular circumstances which favor its production, or lead to its destruction have not been definitely ascertained; nor am I prepared to say whether the moss itself exerts any specific effect as a local application, or whether it merely serves as a pleasant and convenient medium for the application of the water. At all events its application, within certain restricted limits, has been attended with the most salutary results. I say within certain limits, because it must be borne in mind, that the application of a sedative agent to the most irritated texture, if continued beyond a certain point, will not only cease to do good but will inevitably result in positive injury.

With these general remarks on the local and constitutional effects of the water, it will be readily understood to what a large and varied class of chronic affections it may be made applicable. It will prove of especial benefit in all cases which demand for their relief a sedative, alterative, and ultimate tonic effect. A few of the most prominent of these, with some illustrative cases, will now be indicated.

In all cutaneous diseases, with local hyperæmia and constitutional irritation, the water of this spring will prove highly beneficial. In all cases when speaking of the use of the water, I must be understood as extending

its application, not only to internal use, but also to the use of the baths and the local application of the moss. The plunge bath at 85° Fahrenheit, the natural temperature of the spring, is the one best adapted to a large proportion of the cases which present themselves; but when desirable to use a higher temperature, provision is made for this purpose by baths artificially heated.

In numerous cases of chronic Eczema, which were brought to my notice, the local and internal use of the water was attended with the most satisfactory results. In these cases, however, time and perseverance are required for a perfect cure; and it happens too often that patients, either from restlessness or from want of pecuniary means, are induced to leave the springs before this object is accomplished. The same remark will apply to all chronic cutaneous eruptions. Whether in the cases submitted to my inspection, the patients continued to improve after leaving the springs, or whether they maintained the relief which was obtained whilst there, I am not now prepared to state.

As illustrative of the effects of the water in cutaneous disease, and its corresponding ulceration of the mucous membranes, the history of my own experience may not prove uninteresting or uninstructive.

In the early part of the Winter of 1866–7, I was attacked with an eruption which pervaded the whole cutaneous surface. It was preceded by no especial constitutional disturbance, nor was it immediately followed by any impairment of the general health. The cause of the eruption could not be determined with any certainty. It may have been the result of an inoculation of the poison of Ballanitis, occuring whilst operating for the reduction of Paraphymosis, in the case of a gentleman who labored at the time under a somewhat similar eruption; but upon this point I cannot be positive. The

eruption made its appearance about six weeks after the performance of the operation. Within a few days after the supposed infection, a spongy, irritable sore made its appearance on the thumb, which, without destroying the texture of the skin, extended, and proved intractable during the whole course of the disease. The eruption itself was of a mixed character, though it answered more closely to the description of some of the forms of psoriasis than to anything else. It resisted the use of all the ordinary remedies, though the general system soon acquired such a degree of hyperæsthesia as to render me intolerant of all excitants, even in the smallest doses. The iodide and bromide of potassium, corrosive sublimate, arsenic and other alteratives were used during several months, together with such local applications as were deemed appropriate, either by myself or others, but all without any very good effect. The eruption continued; the mucous membrane of the mouth and fauces became affected, and finally ulceration occured to such an extent as to render the use of salt or solid food exceedingly painful and unpleasant. With this condition of things, the constitution was of course becoming gradually undermined, and I fell into a state of listless indifference, with indisposition to all exertion, whether mental or physical. In this state of suffering I went to the mountains of Virginia sometime in June, and about six months after the commencement of the eruption. For private reasons I resided at the Warm Springs, and for a short time used the bath and drank the water of that spring. Even this delectable bath proved too stimulating for my irritable condition; and, at the end of ten days or two weeks, I was in a worse state than when I left home.

Under these circumstances, I visited the Healing Springs and took a bath of fifteen minutes' duration, in water of its natural temperature. This I repeated twice

a week during the next three or four weeks, sponging the parts most affected, in the interim, with water taken with me from the spring. During the same time, I drank a glassful of the water four times a day—morning, noon, at four o'clock and at bedtime.

From the time of commencing this treatment, my improvement was decided and rapid; so much so as to preclude the idea of its being due to anything else than positive and active medication. In less than a month the ulcerated mucous membrane had entirely healed, and the eruption had disappeared, except in one or two places where it had been much aggravated by local causes. My health, strength and spirits, improved pari passu, with the improvement of the local disease; and, among other pleasing results, was the appearance of an entirely new crop of hair, on parts of the head previously denuded; the whole having undergone a change of color, bringing it several shades nearer to the original.

An interesting fact in connection with my case was, that a short time before leaving the Springs my sight became impaired—first in one eye and then in the other—to such an extent that I was unable to read even the largest print, and for some months I was compelled to abandon all literary pursuits. Some slight improvement took place in the spring of 1868, but it was not until I spent another Summer in the mountains, and went through another course of the Healing Spring water, that my sight was entirely restored and my general health reëstablished.

This personal experience in the use of the water gave me the opportunity of observing its general effects, much more accurately than could have been done in the persons of others; and subsequent opportunities, in others, enabled me to verify the correctness of these observations.

In inflamed, irritable and ulcerated states of the mucous membranes, in every part of the body, the use of the water will be found highly beneficial. In ulcerative stomatitis, its action is prompt and decided.

In chronic diarrhœa and dysentery, the results or concomitants of irritation and sub-acute inflammation, it has proved essentially curative; although, in the same diseases, attended with a relaxed condition of the mucous membrane, as indicated by a pale and flabby tongue, it has proved detrimental. An eminent divine of St. Louis, who had long suffered from chronic dysentery, probably accompanied by ulceration of the lower bowels, visited the Springs towards the close of the last season. For relief he had taken opiates, until his appetite and strength were manifestly giving way under their influence, and he was very anxious to suspend their use entirely. He was advised to drink the water, with the addition of some bromide of potassium, at bedtime; and to wash out the bowels twice a day with copious injections, retaining as much of the water, after each injection, as could be done without inconvenience. Under this treatment his condition soon became comparatively comfortable; and, without an opiate, he was enabled to rest during the night, free from disturbance.

A poor man in this city, who was reduced to the last extremity by chronic diarrhœa, which had resisted treatment during many months, was generously tendered, by one of the proprietors, some bottles of the Healing Spring water, to be tried as an experiment; he was entirely relieved in a few weeks, and his relief has proved to be permanent. The use of the water has proved to be eminently serviceable in irritation and inflammation of the mucous membranes of the genito-urinary organs. A young gentleman who had suffered for many weeks from inflammation of the neck of the bladder and prostate

gland, attended with some hæmorrhage, visited the Springs, after having submitted to a variety of treatment, with very little good effect. In addition to the vesical disease, he was also troubled with a painful affection of the lower bowels, accompanied with symptoms of dysentery. He was directed to drink the water, to use the plunge bath daily, and to wash out the bowels freely, three times a day, with water at its natural temperature. In ten days the relief was complete. Circumstances compelled him to leave the Springs much sooner than was deemed advisable, and there has occasionally been some return of his suffering, though it has been promptly relieved, in nearly every instance, by the use of the bottled water.

In uterine affections, attended with engorgement, and an irritable state of the organ, whether with or without fluor albus, its good effects, when used both locally and constitutionally, have been very conspicuous. That its long continued use would have any effect in discussing the fibroid tumors of this organ, is scarcely to be expected; but whether it would not have the effect of arresting these growths, in their development, is a question worthy at least of mature consideration.

In chronic rheumatism, gout, neuralgia, and certain other forms of nervous disease, its good effects have been too well attested to admit of any doubt. A highly intelligent physician from the South, came to the Springs only a few days before the close of the last season. He labored under rheumatic gout, with calcareous deposits and soreness and stiffness of the wrists and joints of the fingers. His feet and ankles were similarly affected. At the end of eight days, he informed me that he had derived more benefit from the Healing Spring water, during the few days he had been there, than he had done during as many weeks, spent at other watering places in

the mountains. The calcareous deposits were removed and the joints restored to their healthy flexibility.

As might be expected, the good effects of this water in all the forms of secondary and tertiary syphilis, have been uniformly acknowledged; and it is not deemed either necessary or proper to furnish any illustrative cases.

In no forms of disease have the virtues of the waters been more promptly and more signally displayed than in the ophthalmia and other external manifestations of the strumous diathesis. For want of space, a simple case must serve to illustrate its effects in this class of affections. During my first visit to the Springs, I was consulted in the case of a child six or seven years of age, who had scrofulous ophthalmia—ozœna—and enlargement, with ulceration of the cervical glands. Constitutionally she presented, in rather an aggravated form, the appearances which ordinarily characterize such cases. She was advised to visit the Healing Springs, where I saw her some weeks afterwards, so much altered and improved in appearance, as scarcely to be recognized. With the improvement of her general health, all the external manifestations of disease were rapidly disappearing.

To give illustrative cases of all the diseases to which this water is applicable would occupy more space than could be allowed, with propriety, to a single article. If I have been successful in conveying correct ideas of the local and constitutional effects of the water, the intelligent physician can select such cases as will probably be benefitted, and exclude such as will be injured by its use. Like other remedies for disease, this water has been endowed by some with properties almost miraculous. Medical intelligence everywhere will make due allowance for the ignorance and credulity of those who claim for

any mineral water the power of curing consumption, of eradicating cancer, or, of removing a cataract.

In general terms, it may be safely stated, that benefit is not to be expected, from the use of this water, in diseases of whatever kind, attended by relaxed fibre and impaired sensibility, unless these have been caused by morbid deposits; and, that it may be recommended with confidence, for trial, in all curable chronic diseases, accompanied or not by constitutional irritation, and attended by local hyperæmia and exalted or perverted sensibility.

ART. II.—A MOST REMARKABLE CASE OF GUN-SHOT WOUND OF THE HEAD, WITH DEATH FROM ANOTHER CAUSE. By PAUL F. EVE, M.D., St. Louis, Mo.

DEAR DOCTOR: According to promise made a few days ago, I send you a report of the remarkable case of gun-shot wound of the head, which came under my observation during the late war. Please let Dr. Maughs see it, who may possibly supply some additional details, which may have escaped me. I took notes of the case some time ago, but not immediately after its occurrence, and from these and the hospital register, still in my possession, I make out its history.

Very respectfully, your colleague,

PROF. P. F. EVE: CHARLES O. CURTMAN.

This report has been submitted to Prof. G. M. B. Maughs, another of my colleagues, who, though not present at the post mortem examination, recollects seeing the case and being consulted about it. The accuracy of Dr. C., as an observer, and his truthfulness cannot be questioned, and we must either deny his ability and that of those who were with him at the autopsy to make it scientifically, or accept their conclusion that no ball could be found: for I am assured that after a most diligent

and careful search of all the cranial contents, cerebral substance, membranes, sinuses, blood, serum, etc., nothing foreign but the round piece of bone or disk could be found. Dr. Curtman supposes that this was punched out by the ball and acquiring its momentum was carried far through the lohgitudinal fissure of the cerebrum and then by gravity subsided upon the superior vermiform process of the cerebellum, where it was found. He thinks the vulnific agent, a bullet, must have rebounded, and therefore never penetrated the cranium. The wound was received in a street fight, at close quarters, in Lexington, Mo., and believed to have been made by a large pistol, as the diameter of the bone removed measures nearly half an inch. P. F. E.

Remarkable Case of a Gun-shot Wound of the Brain, and yet no ball believed to have entered the Cranium. Reported by Charles O. Curtman, M.D., Professor of Chemistry in the Missouri Medical College.

December 25th, 1861, H. H. Wisdom, company H, first Infantry, seventh division, Missouri State guards, was brought into the general hospital, just organized at Springfield, Mo., and placed in the large ward then under the joint charge of Dr. Joseph L. Moore (now of Shreveport, La.), and myself. His scalp, face and breast were horribly burned, to some extent litterally charred. He was entirely unconscious, insensible to all outward impressions, and continued in profound coma till his death. We received the following account of his case, not only from his comrades, who brought him in, but also, if I remember correctly, from Dr. A. Gullet, (now of McKinney, Texas), who had charge of him while at Lexington, Mo., and who afterwards came to Springfield.

September 20th, 1861, during the siege of Lexington, the patient was wounded by a small sized ball, (0.44 inch) which produced a round opening in the frontal bone,

about an inch above the left superciliary arch and not far from the median line of the body. No ball was detected at the first dressing nor was any felt during the treatment of this wound. The man soon recovered without any unusual symptom, but the wound remained open and he subsequently became epileptic. He was, however, permitted to join his regiment then encamped on Sauk river, and while quartered at night in a log cabin, by the road side, fell into a blazing fire, during an attack of epilepsy, and was terribly burnt, as already mentioned. On the next day he was brought to our hospital, and died on January 8th, 1862,

At the autopsy a number of surgeons were present, Drs. T. L. Wooten, A. Gullet, J. L. Moore, B. H. Jaudon, and others, some of whom had seen and examined tha wound when it was received at Lexington. A perfectly circular hole was made in the os frontis, a little to the left of its centre and about an inch above the left eye brow, cut smoothly, as if by a trephine, and through both tables of the bone, without splintering or otherwise injuring it. The anterior lobe of the left hemisphere of the cerebrum exhibited on its inner surface the evidence of the passage of a projectile by a superficial groove, which had completely healed and was filled up by a pale pinkish layer of lymph, fully supplied with vessels. The track of this cicatrix could be easily traced over the anterior half of the longitudinal fissure, but no further; no lesion of the corpus-callosum, whose upper posterior portion lay in the direct continuation of the line marked anteriorly, could be discovered; nor any other abnormal condition of the brain. Near the posterior edge of the superior vermiform process of the cerebellum was found lying loosely, a disk of bone cut out from the frontal portion of the cranium. It was white, circular, without fracture or

splinter, having its diplœ slightly crushed at its edges. Diligent search was now made for a ball, but after carefully exploring every recess which might possibly give it a hiding place, none could be found, and this too contrary to onr sanguine expectations. We were forced to the conclusion that no bullet had entered the skull, but that the ball must have rebounded, propelling however the piece of bone along the longitudinal fissure, and occasioning a comparatively slight lesion to the brain, where a much graver one had been looked for.

The above case is supplied somewhat from memory, though the hospital register is still before me, and I feel confident that so vivid were the impressions made at the time that no essential particular has been forgotten. It may be but for the extensive and fatal burn which terminated his life in two days, that this patient might have lived some time, though epileptic.

ART. III. INTERESTING CASE OF GUN-SHOT FRACTURE OF THE SPINE, WITH COMPLETE LOSS OF SENSATION AND MOTION. By R. M. FAIRLEIGH, M.D., Hopkinsville, Ky.

Charles Glass, colored, æt. forty-two years, was wounded on the 21st of July last, by a ball discharged from a repeater. He was brought to my office, half a square from the scene of rencounter, and an examination revealed an injury of the spine; the ball having entered the body about half an inch to the left of the spinous process of the third or fourth dorsal vertebra, and passing obliquely to the laminated arch, made a comminuted fracture. Complete paralysis, both of sensation and motion, from the point of injury down, was the result. The body and lower extremities were sharply pricked with a needle, but no sensation produced. The patient frequently asked, "Where are my legs?" and never realized

up to the time of his death that they were attached to his body, except by a sense of dragging weight, or when he would feel them with his hands. The whole of the body above, to within two lines of the wound, was at all times sensitive. For several days, after the fourth, there were some pneumonitic symptoms, but these were only slight and soon abated. The action of the kidneys was apparently perfect, but for five days there was complete retention of urine, making the use of the catheter of daily necessity. After this time there was constant stillicidium, sufficient to keep the bladder empty without artificial interference. The bowels also were constipated, at first requiring active cathartics, but afterwards acting involuntarily. The patient had no knowledge of the condition of these organs, or when they would discharge their contents, except as he was informed by his nurses. Febrile excitement was not great at any time. Appetite not very good, though fruits were craved and generally allowed. Digestion went on well. About the ninth day, (29th of July), excoriations of the gluteal regions and over the trochanters appeared and, in spite of air cushions and all proper medication, increased rapidly, making frightful and disgusting ravages in all the tissues of the parts named. Death supervened on the 11th day of August, twenty-two days after the injury. On the 12th, a *post-mortem* was made by my friend, Dr. B. W. Stone, the accomplished assistant physician of the Western Lunatic Assylum, in the presence of several professional gentlemen. The examination of the heart and lungs revealed nothing of much importance; the cavities of the former were filled with coagulated blood. The lesions about the spine and cord, however, were very decided. The ball, after striking the bone, made a direct ascent of about one and a half or two inches, and was found impacted in the bone: the laminated arches of the

vertebræ were torn into fragments and the cord exposed, and lacerated by fragments of bone being driven down upon it. It was also considerably disintegrated for a little distance above and below the injury. The specimen of the section of the spine, now in your possession, will show fully the character of the injury to the osseous structures. For the preparation of this specimen, I am also indebted to Dr. Stone. I will remark that an interesting feature presented by this case was the *complete* paralysis of sensation and motion. A cord, not larger than a whip cord, drawn around the body and tied over the wound would have shown, with perfect precision, the extent of the paralysis upwards. Extensive bed-sores in such injuries, I believe, are always to be observed. In this instance one was large enough to receive a hat with an ordinary brim.

[This case, when compared with that published in the April number of this Journal, will be found to possess several features of some interest. The ball did not impinge as much upon the cord as did the knife in the case (reported by Dr. Smith, of Butler, Ga.), illustrated in the last issue of the Journal. In the case wherein the ball impinged upon the cord to a partial extent, there was complete loss of motion and sensation; in the case wherein the knife impinged rudely and severely upon the cord, there was neither loss of motion nor of sensation. In the case of the ball, the arch was severely fractured; in that of the knife, it was thoroughly penetrated.

These interesting specimens, with others, are in the possession of the editor of this Journal. Will not the friends of the Journal increase this modest nucleus of a future and contemplated museum. Such specimens will be carefully preserved; will be kept open for the inspection of the profession; will be described, by publication, with care; will be always gratefully received, and the gift warmly appreciated.—ED.]

ART. IV. INTERESTING CASE OF INGUINAL HERNIA, IRREDUCIBLE UNDER THE INFLUENCE OF ANODYNES, OPIATES AND EMETICS, PROMPTLY REDUCED UNDER THE INFLUENCE OF COFFEE. By E. C. MARKS, M.D., Winchester, Tenn.

I was called on the night of February 2d, to see Jerry Armstrong, Freedman, with Dr. McCutcheon. On my arrival I found a complete inguinal hernia of the right side, the tumor very hard and excessively painful; the pain very great in the umbilical region. After a consultation with Dr. McCutcheon, we fully administered chloroform, and then made an effort at its reduction, but failed. After the patient had fully recovered from the effects or the anesthetic, he told us that he had had it reduced before by other physicians, after thorough emesis, followed by full doses of opium. We then proceeded to carry out the treatment that had been so successful on previous occasions, and administered a full dose of ipecac and tartar emetic, which acted very promptly and effectually, but without the slightest effect in relieving the tumor. We then began giving morphia sulph. in grain doses, repeated every half hour. This treatment was begun at 12 o'clock. After having given three doses without producing any impression, we increased the dose from ½ to 2 grains at a dose, until five or six grains had been given. With the last dose we also gave about ʒj. of tr. opii. After the full anodyne effect of the drug had been induced, we again endeavored to reduce the hernia, but without success; as the patient was now easy, we determined to leave him in order to get a little rest. This was about 4 o'clock in the morning. We met again about 9 a.m., and found the patient awake, but comparatively free from pain; tumor still hard and irreducible.

After talking the matter over, we determined to try the coffee, as directed in an article in Braithwaite's Ret-

rospect, part LIX, page 163. Also Am. Med. Jour. and Ranking's Half-yearly Abstract.

We took ½ lb. of ground parched coffee, added twelve cups of boiling water, and gave one cup every twenty minutes. After the fifth cup had been taken we examined the tumor, and, to our surprise and gratification, fonnd it easily reducible; and the patient remarked that it had "gone back" much more easily and with less pain than ever before. The patient recovered promptly, and was out in a day or two, engaged in his usual business, that of shoemaking.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—IMPERIAL ACADEMY OF MEDICINE—PUBLIC ANNUAL SESSION OF 1870. M. BLACHE, President.

M. BÈCLARD pronounced the following eulogy on M. TROUSSEAU. (Translated by a Lady of Louisville, Ky.)

GENTLEMEN: Last year I pictured to you the laborious existence of an humble artisan of Touraine, freed by the force of his will, elevated by his intellectual work, and carried by his achievements into the foremost ranks of science. It is on the same spot, guided by the same hand, that a brilliant young man, crowned with the rewards of former studies, entered in his turn, upon the career where victory awaited him.

Famishing for knowledge, the first devoured with an insatiable avidity, the bread of the mind, which Bretonneau dispensed with the hand of a prodigal father, during his attractive and valuable conversations; whilst, accustomed to receive it, the second was better prepared to relish and appreciate its taste. Uncertain as to the road he ought to take; one instant, medicine; the next, influenced, perhaps unconsciously to himselt, by the impressions of his childhood, M. Velpeau, turned ere long towards the operative art.

From the first, the part of M. Trousseau is taken. The simplicity of the master, his affectionate familiarity, the unrivalled charm of his teachings, have all, from the first, seduced the disciple. He gave himself up entirely to it.

Of the precious germs thrown upon a fertile soil not one was lost; how fertile this soil, was best seen in time of harvest.

M. Trousseau ever preserved a lively remembrance of the days passed with M. Bretonneau. He felt that he could never sufficiently reward him who had guided his first steps; never could he cease to testify towards him the tenderness of a son and the respect of a disciple.

The feelings which he entertained for his old master, M. Trousseau was himself well calculated to inspire. Who can have forgotten the double homage paid to his memory by gratitude and by friendship;* pages rendered eloquent by the inspiration of grief; accents weighty with an emotion of which each one of us has partaken.

Of a nature pure and elevated, easy to be penetrated and overflowing with kindness, M. Trousseau was, to borrow the expression of the poet, one of those cherished mortals whom the gods love and whose hearts are trained after their own. And how was it possible not to be attracted by the seductions of this brilliant and quick intelligence, open to all and always on the alert; happy commingling of most diverse gifts; a rare good sense with an ardent imagination, a firmness of purpose united to a pliable nature; breadth together with precision, and all the qualities, and sometimes the extravagance of an inventive and original mind.

Armand Trousseau was born at Tours, on the 11th of October, 1801. By a former marriage, Madame Trousseau was already the mother of two sons, one of whom became a skilfull architect; and the other was General Jacquemin. At the time of M. Trousseau's birth, his father had opened an educational establishment, where the youth of the country found once more the complete and comprehensive teaching of the ancient university schools. But it was the period for works of arms, and the thunder of cannon was filling all Europe. The Institution flourished but for a short season, and was then engulfed in the disasters of the country; entailing with

*M. Pidoux and M. Lasegne.

its fall the ruin, and shortly afterwards, the death of its founder.

M. Trousseau was first admitted to the Academy of Orleans, and afterwards to the College at Lyons, and having finished the course at these schools, he returned to his mother's home. He first became preceptor in a school at Tours; master of studies in the college of Blois. He occupied the Chair of rhetoric for some months, and then determined to go to Paris, in order to study medicine.

Scarcely had he arrived there, when the doors of the School were closed before him. The Bishop of Hermopolis, by a stroke of authority, had just dissolved the Faculty. This unexpected event led him back to Tours. He saw Bretonneau; wished for no other master; received from this intercourse an impression, which, during all his days was never effaced, and he did not return to Paris, except to be examined for the degree of doctorat. On the 17th of August, he gave in his inaugural thesis. He was then twenty-four years old.

Entering almost immediately the "Maison Royale de Clarendon," in the capacity of Interne Student, he profited by the proximity of the School of Alfort, and commenced, in company with a young veterinary,* prematurely elevated to science, those researches into comparative anatomy and pathology, which he was destined, at a later day, to pursue with our learned confrere, M. LeBlanc.

A meeting was held by the Faculty for the admission of students into the ranks of medicine, just as M. Trousseau attained his 25th year. He added his name to the number of applicants and came out of the race victorious.

In the springtime of the following year, M. Trousseau traversed the plains of Sologne, then desolated by croup; and left the country for Spain, towards the end of autumn, in company with M. Louis and M. Chervin, whose name awakens the remembrance of a courageous existence, entirely devoted to the defense of one idea. The yellow fever had just declared itself in Gibraltar. This disease, which they were going to observe together, M. Chervin had formerly sought on the banks of the American rivers, and traced to its cradle, across difficul-

*M. Rigot.

ties without number. He could not now mistake it; he recognized it at first sight. Everythlng seemed to demonstrate that the fever of America had been introduced by the means of importation. M. Chervin was not staggered; he affirmed that it had taken birth on the soil of Spain. His companions were more reserved. Thirty years later, M. Trousseau, recalling the impressions of his youth, retraced in this place the striking contrast of a new city, an artificial creation implanted on the confines of Spain, on the summit of a storm beaten rock, without land and without water, and decimated, notwithstanding, by this fever; whilst miserable villages, sunk in the bogs which surrounded them, and cut off from all communication with the sea as with the city, had escaped the epidemic.

That which they saw at Gibraltar, they were destined also to see on the coasts of Bretagne. This thought of minds difficult to convince, recalls to us the recent example of Saint Nazaire. After an examination as impartial as enlightened, conducted with a rare prudence by one of the most regretted members of our company, who can any longer doubt the exotic origin of the yellow fever as observed in France?* Is there any thing more clear? And how can we refuse to be convinced by such evidence?

Escaped from fhe epidemic, not, however, without feeling its dangerous touch, M. Trousseau returned to Paris and recommenced his interrupted work. To the young man just entering upon his profession, the cares of practice weigh but lightly. M. Trousseau in later life bent beneath this noble burden. The reviews and the journals of the day testify to his activity. Already the natural tendency of his mind could be seen to lead him to the examination of all things practical; one found in his writings more than promises—there were already the premises of a work for which he was gathering the materials.

The Committee of the Central Bureau, in opening for him the gates of the hospitals, placed him in his proper sphere of action. He entered immediately into the service of a master who was at that time very celebrated, M. Recamier; a violent temperament, without rule and without method; a man of sudden inspiration and inexhausti-

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* M. Melier—relation of yellow fever observed at Saint Nazaire in 1861.

ble resources, full of assurance, led astray in an instant by his adventurous fancy, even in the domain of science, and leaving hardly anything but the memory of his temerities; for the rest, a man all good, charitable and disinterested. Of true disciples, M. Recamier had not the power of having one; but his entire sincerity, his immovable confidence and profound faith in the resources of science, spread around him salutary examples and stengthened the wavering minds of others. From the sight of hazardous experiments attended by unexpected success, M. Trousseau learned never to despair. The clinical teaching at the Hotel Dieu, which he divided with M. Recamier, did not satisfy him; he opened a course of meteria medica and therapeutics. Those who attended the Hotel Dieu could observe, entering with the professor and going out with him, this man still very young, with fine features and an intelligent expression. Together at the hospital in the morning, and during the evening at the school of practice, they were never apart. Though animated with an equal enthusiasm, they were nevertheless very little alike. Attracted always by the exterior of things, more impressed with differences than with analogies, more disposed to separate than to unite, the one liked to progress by the light of analysis; more inclined to speculation, eagerly seeking in his facts the proof of his ideas, the second carried always into his researches something of his own identity and delighted himself with synthetic views.

If each one was attracted by a special object, the end which each sought was the same; united by labor as they were by friendship, each completed the other and lost himself in a common work. It was in 1837 that the "Traitè de Therapeutique" appeared. Thirty years have not extinguished the success of this book. To the intrinsic merit of the work must be added another: it came just at the proper time. The movement of ideas whence came the revolution of 1830, and which produced great politicians, great poets and great writers, made itself felt also among us. The tyranical despotism of systems, scourge of the constituted sciences, mistaken dream of all the ambitious in medicine, sustained at last a final defeat and was succeeded by a more severe mistress; experience came at last to our assistance.

Disabused of those formulas which contained all, and from which they could draw nothing—resigned to follow

paths more slowly, though surely, the minds of the day left the shadow to grasp the substance—retained nothing of Broussais but his passion for reality; and taking up again with great ardor the works of Bonet and Morgagni, greatly lessened the domain of the unknown.

With the aid of the new means of research that the sciences placed in its hands, medicine penetrated in the course of time into unexplored regions and advanced even to the frontiers which separate health from disease.

What a vast deal was accomplished in those few years. A whole new world, of whose very existence we were ignorant, examined in its most hidden recesses, conquered for all time by a Breton of genius.* The forms, so dissimilar apparently, of continued fever, were connected by a common tie; where confusion had reigned, order was introduced by a rigorous observer, who united to the intrepid constancy of the pioneer, the dignity which inspired respired respect and the modesty which made him so beloved.† Diseases of the heart, taken at the commencement, aided by the sounds which met the ear with their tones so varied and often times so strange; the alterations which engendered them were referred to their proper source, and, by a gleam of light, connected with rheumatism; fruitful discovery of a glorious worker, who was always in the front rank of progress, and who was yesterday chosen as the most worthy to inaugurate in the name of French medicine, the new era of the scientific fraternity;‡ alterations which had never been sought for except in the organs, made visible in a living liquid which is not yet flesh, but which will certainly become so. Two other names now rise to our lips. Already you have recalled the eminent confrére, who carries into the study of the laws of life, the brilliant torch of the physical sciences, and the respected master, whose learned researches taught new generations to separate from their perishable envelopes the seeds of truth; distinguished man who for so long a time was separated from us by the obligations of a pious devotion, and in whom one knows not which most to admire, his elevation of mind, or his nobility of heart.‖

M. Trousseau took part in this movement. The "Traité de Therapeutique," to which he gave his name,

* Laennec. † M. Louis.

‡ M. Bouillaud, Organizer and President of the Medical International Congress.

‖ M. M. Andral and Gavarret.

directed our thoughts towards the pressing and too often neglected necessities of the medical art.

At the bedside of the patient, M. Trousseau became a physician; his education was entirely gained at the hospital, and he will always bear the marks of this training. Not that he was indifferent to theoretical science; it happened to him also to have his hours for theory and speculation; but all pathogenic conception was valueless in his eyes, unless some practical result was the sequence. Pathology is a means; therapeutics is the end to be obtained. If we admire the wealth of the one, we are shocked at the paucity of the other.

It is doubtless well to seek the laws of a rational therapeutics; this ideal, medicine has pursued, with the noble ambition of one day obtaining it, since the time of Galen, and it is one of the glories of our science that it tends towards this end with an ever fresh fervor. But the solution the problem is the work of time. The patient cannot wait; the physician must act; such is his social mission, and it is this which makes at the same time its peril and its grandeur.

Before the infinite diversity of the morbid manifestations, as mobile in their expressions as are individuals themselves, how much of difficulty there is, and oftentimes how much of uncertainty? Under pain of losing precious time in inopportune thought, powerless as he is to discover the source even of the evil, the physician has to resign himself to attain that which is within his reach.

M. Trousseau did not ignore the fact that diseases are (to follow the disdainful expression of Bronssais) but the beings or creations of the reason; but he knew also that these unities, artificial as they are, are none the less necessary. The mind, without being the dupe of its own creations, can only conceive them by endowing them with an objective reality, and incarnating them in some manner in the organs.

Like the great proportion of the ideas which form the common fund of human knowledge, disease was for him, one of those things which, all unknown as it is, is not, therefore, less comprehensible.

To announce, as a new discovery, that there is in nature only diseased people and not diseases—to imagine that in order to solve a problem it is enough to subvert the terms, and that one could master ideas by surrounding them with a wealth of words—these were the pompous efforts which made him smile.

A disease, whatever it may be, cannot be conceived of without the aid of a definition—be it good or bad. Now, just as a thing is defined, it becomes placed in the mind after a logical order, conformed to the definition. To define and to classify are two inseparable operations; the truth is, they are but one only. Whether the definition be drawn from the symptom, from the anatomical change, or—as would be better still, if it were always possible—from the etiological force, it matters but little; there is always at the bottom the same necessity, and this necessity is apparent at the outset of every disease.

These evident truths could not escape the penetrating good sense of M. Trousseau; he has often dwelt upon them under various forms, in his lessons and in his works. Hence the very great care with which he forced himself to define the types of diseases; to circumscribe them in order to determine their species. Hence, also the tendency to multiply them and to attach each one to a special origin, to a specific cause.

In order to be able to master his own thought, and to make it accessible to others, he felt the necessity of arranging it under a concrete form. See with what facility he borrowed from vegetative science his terms of comparison. But what he carried into natural history, what he wanted to introduce into the study of pathology, was the idea of species and nothing else. He was too much occupied with the real, to blindly enter the domain of hypothesis. In his mouth, the expressions of ferment, of grains, of cuttings, were but images; they were the colors which the artist adds to the picture in order to heighten the relief. When he spoke of diathesis, dispositions, morbid in power, whose root is so often hereditary; when he speaks of the germs which sleep, do not seek in these expressions anything but a pure and simple affirmation of a virtuality (potentiality) of accidental manifestations.

In order to attract him, an idea must be capable of being made useful. If he forced himself to distinguish and characterize morbid specimens—if it pleased him to trace there the most striking image—if he proclaimed the necessity of giving the nosological sequences, it was that in his eyes the physician who did not at first learn to know the natural course of diseases would never be capable of judging of the action of remedies, and even his experience would remain sterile. "Whatever we may do,"

said he, "diseases have an inevitable evolution which they must accomplish, and all therapeutical methods are shaken by this interrogation: what will happen if the physician should abandon to nature the cure of the disease? Abide your time; be less proud of your succeess and less sad at your defeats."

It will be asked, perhaps, to what school M. Trousseau belonged. Listen to the answer which he himself gives: "All manifestations of the living animal, pre-suppose tissues and organs; I am then an organicien. Living matter distinguishes itself from dead matter by manifestations which it possesses alone. I am therefore a *vitaliste*. There is in man an immaterial and liberal principle. I am then an *animiste*."

What conclusion shall we draw, gentlemen, from this three-fold declaration, if it is not that he stopped prudently on the threshold of abstract conceptions, and that he cared little to be ranked in any of the categories, which one meets in every department of learning, as the expression of a fundamental system of thought. It is, moreover, in vain, that we seek to reconcile these formulas by means of combination, or to express it better, to surround them by an eclectic process in this powerless philosophy, dead before its author, who, confining himself to showing us the human mind condemned to move eternally in the same circle, obscured the idea of progress, paralyzed research, and led irresistibly to indifference.

In the two conferences which he called, in 1862, at the demand of the Polytechnic Association, one could judge more correctly, I do not say of the doctrine of M. Trousseau, for he gloried in not attaching himself to any, but of his manner and tendencies. Founded by old pupils of the Polytechnic school, for the gratuitous instruction of workmen, these conferences were addressed to, a new public to him. The Clinical Professor of the Hotel Dieu, was then at the summit of his renown; the choice of orator could not be more happy. He had to speak of empiricism; the subject had been given to him. He endeavored to unveil the falsehoods of charlatanism, and to place on their guard against deceitful lures, an audience already too much disposed to credulity.

M. Trousseau aimed very high and succeeded by one of those unexpected turns which were natural to him. "I hold to the honor," said he, "of being an empiric."

But do not take this literally, nor seek under this expression the philosophical thought which it covers. No, we will not consider here the ancient doctrine, which has never been professed in all its rigor, for the evident reason, that pure experience does not go beyond phenomena.

There is not, there cannot be a science which confines itself to the contemplation of details only. In order that sciences proper be originated, it is preëminently necessary that the details constitute systems; empiricism is inseparable from the origin of all human knowledge, but a science is so much the more advanced in proportion as the distance from empiricism increases. When he called himself an empiric, when he proudly claimed an ill-famed title, M. Trousseau deliberately and wittingly, broke, in a startling manner with systems, and ranged himself among the disciples of the experimental method.

Throwing into relief the imperfections of our science, in which there are neither rules absolutely fixed, nor inflexible formularies, he affirmed, that a result being scientific only on condition of being always identical, medicine is above all things, an art, and he proclaimed himself an artist. Mr. Trousseau was an artist in truth; he was one to a very high degree. Whatever it is possible to achieve by work—all can aspire to. That which is given by nature neither time nor patience can effect.

There, where well trodden paths are wanting, the penetration of the physician must be his only guide. How many flying, intangible shadows there are for those who understand not *how* to see what are pointed revelations to the practiced eye! Marvellously endowed for hunting, the dog with a certainty, which savors of the supernatural, discovers his prey under the bush.

In medicine it is possible to foresee and there are degrees in clairvoyance. The personal value of the observer is often measured by this.

Do not allow yourselves to be mistaken, gentlemen; active and practical medicine, is in truth, an art, but an art of application. This art supposes a science or it is nothing. When he realizes his ideal under a tangible form, the true artist, the creative artist is not guided by the work of thought; the expression of his idea, is, so to speak, immediate; he obeys a sort of intuition of which he is not always even conscious. Even while he seems to ignore himself, the physician is never completely free.

If he decides, it is only after he has chosen, and in his choice, there is always something which responds to the idea that he has given himself to that which is useful. He mixes that which he sees with that which he knows—being more inspired as he knows more.

M. Trousseau felt, with others, the necessity of uniting practical precepts to an accurate conception. In his books, in his teachings, what moral views, what fine touches, what ingenious reconciliations! And this is not only the tradition of the past, it is actual science, the present science imposing itself upon the facile mind. Sometimes you see him in love with a hazardous theory to which he lends the weight of his word. Again, he always liked better to be wanting in constancy than in sincerity, and you always find him willing to acknowledge his error. It can be said, that he has remained faithful to the portrait which he drew of himself in one of his first writings: "Many men," said he, "are born with minds which never turn towards the truth; once having adopted an idea, they guard it and keep it, as if there were shame in being mistaken, as if in the science which we cultivate, we were not always at school."

It was by clinical experience that M. Trousseau became one of the greatest physicians of our age—there he will always hold a first rank. If there can be no practitioner without the clinic, medical science has none the less its own and independent life. But each one to his calling. Each fact of experience to-day, received in the cabinet of the savant will, to-morrow, govern practice. A nerve is divided in the neck of a rabbit, the vessels of the ear dilate, the temperature rises; and see, at the same time, the local circulation, the effusions and even the phenomena of fever, once so obscure, are illuminated by a new day. On more than one occasion, M. Trousseau has shown himself severe upon the researches of the laboratory. This was only, if you will permit the expression, a passing whim or a revenge, without the bitterness of frustrated hopes. To the seductions which had led him astray, he was again ready to succumb.

In 1839, after a brilliant competition, M. Trousseau entered the Faculty. Twelve years later, M. Chomel, faithful friend of a proscribed dynasty, refused an oath which his conscience repudiated. M. Trousseau exchanged, lecturing in the School for the Clinical Chair in the Hotel Dieu, thus made vacant.

To transmit his impressions by speech, was the true mission of M. Trousseau. The most brilliant attraction of his lessons, was much less his sonorous voice, clear and always elegant, than the original manner in which he viewed things, the turn which he gave to his ideas, the ease with which he expressed them. He was an extemporaneous speaker, full of rich resources, and abandoning himself to the inspiration of the moment; he dispensed his wealth of thought, in the most prodigal manner, and it was not that which cost him most which gave the greatest pleasure to his listeners. He adopted, at will, and with a rare facility, the most diverse tones; all the gifts of his rich nature are here in place, and doubled in value. His descriptions are vivid pictures, and under his fertile pencil, the clouds of coloring which are the graces of speech detracted nothing from the force of his thoughts. "I have construed to-day, in five different methods," wrote Voltaire to Frederick, "a small passage from the *Henriade*, without being able to discover again the way I turned it a month ago. What does that prove? That one has never precisely the same idea twice in his life and that he must seize the happy moment."

The happy moment of which Voltaire spoke, gentlemen, forms the triumph of the orator. The writer can only operate upon those who read, and in the calm of thought, the reader can defy him; master of the moment, the orator holds his sway over those who listen; this conquest, once made, the rest becomes easy.

Always remembering that a professor has something more to do than to fill up the measure of his time, M. Trousseau took from preference, his points of comparison from every day life. Accustomed to mould his language upon the basis of realities, he frequently brought out familiar expressions, and did not shrink befors the vulgarity of the image. High master of the art of giving brilliant touches, he excelled in suspending and awakening attention. His violent gestures, his manner too marked for delicate ears, with which he so often reïnforced his words, were here more merits than faults, and engraved his ideas profoundly upon the mind.

During more than fifteen years, the clinical lessons of M. Trousseau have fed our medical press. A short time before his death, he gathered them together under the title, "Cliniquə de l'Hotel Dieu" into a book, which will remain as the echo of his teachings.

It was here, it was at the Academy, that the talent of M. Trousseau displayed itself in the greatest variety. During the ten years which he passed here, there were few discussions in which he did not take part. His entrance was often marked by something entirely unforeseen and sometimes even paradoxical. He was one of those who think they cannot attain all they want unless they endeavor to grasp even more, and they pass their end in order the better to gain it. One day he would affirm that passing cerebral congestion regarded as the first degree of apoplexy, is very often only an attack of epilepsy; at another time he would say, that puerperal fever is not a disease peculiar to women, and that it is met with also in men.

You have not forgotten the discussion which arose some years ago, on the occasion of a memoire on the tubage of the trachea, and in which he retraced with a master-hand, everything French, in the treatment of croup. At the outset of his career he had found himself face to face with this frightful affection, the terror of all mothers. He had seen the poor little creatures, just now so full of life, struggling suddenly in the agonies of an inevitable death. He had groaned under his powerlessness. Emboldened by the example of Bretonneau, his master, exhilirated rather than discouraged by his fruitless attempt, he achieved, in 1830, a first success, soon to be followed by several others. To open to the exterior air, a new passage, in dividing the trachea; such was the lesson which medicine borrowed from surgery. In overcoming the obstacle, before which the efforts of respiration exhausted themselves, in throwing the air into the lungs, all was not done certainly, the disease was not cured; but imminent death was averted; art no longer remained unarmed, and one could again confide in the healing influence of time, that great physician of infancy.

The example of M. Trousseau attracted, at first, but few imitators; and it was long before tracheotomy took its proper place in practice. He often returned to this subject, entering into the most minute details. He fixed the precise moment in which the operation ought to be performed; the physical qualities and the atmosphere with which it was necessary to surround the patient; the form and the dimensions of the metallic duct which was to keep wide open the artificial aperture of the trachea; the nature and the disposition of the material which

ought to surround the neck of the infant to replace, as far as possible, the superior parts of the respiratory tubes, through which the air no longer traverses. In medicine, said he, himself, there are no *insignificant* means, and no part of what can be called the habit of experimenting, is not very necessary.

I am obliged to recall here that which I consider as the most durable work of M. Trousseau. When our generation shall have passed away, when, of this teaching, which has so charmed us, there remains but a remembrance, less than that, the shadow of a remembrance, that which he has accomplished, will live forever. Let me repeat to you a simple story, which he loved to narrate. "I was called," said he, "with M. M. Blache, Guersant, and two other physicians, to the house of a renowned sculptor of Paris, whose child was dying with croup. This child was in such a condition that none of us, even the most daring, was willing to attempt an operation; we had almost the complete certainty that the child would die, whatever we might do. I was charged by my confrères, to carry the sad tidings to the mother; I told her that the danger of her child was extreme; she had only too well understood it. I added, at her appeal, that I did not think it permissible to administer medicine uselessly—that there was, to be sure, an operation, but in this particular case, this operation presented not one chance in a thousand. At these words, the unhappy mother ran to the door, shut it, and placed herself against it, and turning towards me, said with an accent of sublime anger: 'You do not leave the room until that operation is performed.'" M. Trousseau was conquered; today, that infant has become a man.

Tracheotomy led M. Trousseau to thoracentesis. To make an opening in the throax, in order to give issue to the fluid which constricts the lungs and menaces life, in opposing the play of respiration. Such was the operation, which M. Trousseau propagated among us, and brought to perfection. In the meantime great events were being accomplished. The revolution of February had just given to the principles of popular sovereignty, a new consecration, and conferred in a single assembly, universal suffrage, the mission of founding the Republic. M. Trousseau presented himself before the electors of the department of d'Ure-et-Loir. In the month of April, 1848, he was elected representative of the people, and

went to take his seat, in the bosom of the Constitutional Assembly. His political life was of short duration. M. Trousseau was not of a disposition to compromise, by a miserable ambition, a reputation so justly acquired; equally little was he disposed to identify himself with the crowd of time-servers of all nations. When General Cavaignac gave up his power, Trousseau returned among us amid the applause of his friends, and took once more the rank which belonged to him. His renown had long before this, extended beyond the walls of the School. His confrères had early recognized in him a master. On all points they appealed to his penetrating mind, at once so clear, judicious and fertile in resources.

M. Trousseau rendered to each one his due, and did it with warmth and enthusiasm. How many modest names his teachings have brought to light; with what grace he has put in his works the ideas of others, and how well he knew how to praise their worth!

There are those who feign to know everything and cannot endure to be proved incorrect. M. Trousseau ingenuously avowed his ignorance. Like the philosopher, Aristippas, interrogated by Denys as to what he had been doing in Syracuse, he could only reply, "Giving that which I had and receiving that which I had not."

M. Trousseau was Professor of Therapeutics, when one day he went and knocked at the door of one of his outside pupils: "My friend," said he, "I come to ask you to give me lessons in natural history and chemistry." The lessons lasted three years. The professor learned botany and materia medica. To-day the student* teaches with éclat in the chair of his master.

In the high position which he occupied, he had to submit to the attacks of envious and jealous malignity; he was always as indifferent to these as he was to flattery. The injustice of the critic left him calm, smiling, impassible. One could almost wish that he had shown himself less easy to pardon and to forget. If it was permitted to me to raise the delicate veil which covers his generosity, I could relate to you some noble facts. Like myself, you would be moved by the touching recitation. But he has wished that all this should be ignored, and I cannot offend his memory by speaking more pointedly.

"We gain nothing as we grow old," said he in a com-

* M. Gubler.

mencement discourse; "when we begin to acquire no more, we lose something each year. Happy are they who understand the warnings of age."'

The agreement which he had made with himself, he fulfilled literally when he believed the proper moment had arrived. Still full of force and vigor, hardly having reached his sixty-second year, he asked—he urged—his retirement, leaving to younger men the care of continuing his work. Rare example of wisdom, which finds few imitators!

His health, nevertheless, now declined rapidly; the extreme palor of his face seemed to announce some grave internal disorder, and gave rise among us to many sad forebodings. As for him, enfeebled but not troubled, he seemed to have lost nothing of his serenity. He acceded, however, to the entreaties of his family and of his friends, and consented to leave Paris. A short sojourn on the borders of the sea seemed to reänimate him momentarily. But the disease which had attacked him soon took a more alarming character; and he soon knew from unmistakeable signs that he had nothing to do but to die. Calm and serene, he awaited the supreme moment with all the firmness of the sage. His strong spirit never gave way for a single instant; and he bore, without a murmur, the slow approaches of a cruel death. On the 23d of June, 1867, he drew his last sigh.

M. Trousseau remains as one of the grand medical figures of our time. If he had not genius to discover, he had it to apply. The fortunate chances of his medical education were happily joined to his natural disposition. A rare quickness of impression, a great delicacy of perception, perfected by study, the gift of seeing everything and foreseeing everything, rendered him quick to seize and to fix that which was difficult of attainment, and even more quick to deduce therefrom practical precepts. He lived penetrated with this thought, that in an epoch of transition such as ours, the physician has nothing better to do than to take refuge, as well as possible, in the unfinished edifice of medicine. Full of the work of the day, men like M. Trousseau are in their lives more useful perhaps than others, but in their death we have a double loss.

After the shipwreck of doctrines and of systems, to save our science from the dangers of traditional medicine, such was our first need. This work, to which M. Trous-

seau devoted the best part of his life, has become now less pressing. Already new lights are appearing in the horizon. The breath of the modern mind has dissipated secular errors; the immutable laws of the physical world have given up to us their secrets. In the presence of the admirable harmony which governs all things, who can dare say that the organic world is governed by chance? Let us seek then seek—without ceasing—the natural laws which govern it.

Physiology and pathology are but the points of view in a more general science which contains them both—biology. Before Stoll and Sydenham, there were Harvey and Bichat; and, at the side of these favorites of destiny, brilliant individualities, towards whom all eyes are turned, let us dream also of the valliant workers of the future—unknown laborers, working in obscurity, in their search after new paths, which others will perhaps triumphantly discover.

The community of reason is the product of the efforts of all, and it is thus that the genius of humanity is enlarged and elevated.

Confined by the servitude of the senses, our cognizance of things will always remain incomplete. If life is a mystery which the ardent curiosity of the physician can never entirely penetrate, he has at least the consoling hope of prolonging its duration and lightening its burdens. He reminds himself that one day (day how memorable!) man, who can nothing create and nothing destroy, will have grasped the divine power of producing at will light and heat, and that he will thus become master of the earth. The physician has not the foolish ambition to suspend the course of natural laws, nor of snatching from death this perishable creature, marked with the fatal brand even from the cradle; but, a new Prometheus, he aspires even to steal the fire of heaven!

ART. II.—ON THE ADMINISTRATION OF HYDRATE OF CHLORAL PER ANUM; being a Report of Cases occurring in the University Obstetrical Clinique (Martin's) in Berlin. Translated for this Journal from the Berliner Klinische Worchenschrift. By D. F. LINCOLN, M.D., Boston, Mass.

Having had occasion to observe the occurrence of unpleasant sequelæ, such as abscesses and neuroses of the skin, in consequence of the subcutaneous injection of

large doses of hydrate of chloral, we were driven to inquire whether this remedy might not act with equal efficacy when given in the form of a rectal enema. We naturally supposed that the trouble experienced in the former case could be prevented by covering up the drug in an adequate quantity of some mucilaginous vehicle. In the following case of nephritis albuminosa with eclampsia, we had reason to be very well satisfied with the result:

E. K., æt. 26, servant-maid, a strong, healthy brunette, pregnant for the first time, presented herself on the 6th of October for admission to the University Lying-in Hospital. She said that she came of a healthy family and had herself always been well. Menstruated at 18; subsequently at very irregular periods, but otherwise normally. Believed herself to have been pregnant since the middle of March. Nothing noteworthy since that date. Could not state when motions of child were first felt. Small parts are felt on the right side; sound of heart on the left, but cannot be counted. Strong uterine murmur on the left and in the middle. Os uteri small, closed; os and neck form a well-shaped papilla. Presenting portion of child cannot be felt.

Was received Nov. 1st, as a working patient. With the exception of a little dry cough she was then well, and worked without complaint until Nov. 14. Her face then appearing very puffy, she was relieved from work. She stated that she had noticed a remarkable increase in the size of her abdomen since the 10th, and that, while her appetite was good, her digestion was slow and the secretion of urine diminished. The entire body was very œdematous, especially in the labia pudendi and the lower extremities, so that in fact she found some difficulty in walking. Skin dry. Temperature not elevated. Slight dry cough. No urine having been passed for 24 hours, the catheter was introduced and about 100 cubic centimetres (℥iij.) of turbid, very albuminous urine, drawn off, containing numerous fibrin-cylinders.

Ordered to remain in bed and take infusion of ipecac, 10 grains to 4½ ounces of water, with 2½ drachms of liq. ammoniæ acetatis.

Nov. 15.—No change. Has perspired but little; no stool; urine 200 c. c.

Ordered 3 powders of calomel, āā gr. ij. Infusion of ipecac repeated.

Nov. 16.—Several easy stools; moderate perspiration.

Felt comfortable. At 7 P.M. fell asleep quietly, having made no previous complaint. About 8 P.M. (attack No. 1) the nurse observed a spasmodic twisting of the head towards the left; consciousness was completely absent, the face turned purple, foam issued from the mouth, and the arms and legs in succession twitched violently. This attack lasted about 3 minutes; the patient then lay snoring in a state of profound sopor for 14 minutes, when (attack No. 2) the same phenomena reäppeared. This attack was cut short by the inhalation of chloroform. The patient lay deeply narcotized, snoring and rattling in the throat, until 9:45 P.M. Then she awoke and gave clear answers to questions, but retained no recollection of the preceding attacks. At five minutes before ten the muscles of the neck suddenly began to twitch, and the arms and legs to make convulsive movements, while the face was very red. This (3d) attack was cut short by the inhalation of chloroform, as was the 4th, which began at 11:10. Between the two attacks, and after the last, the patient lay unconscious, snoring and rattling in the throat.

Nov. 17.—At midnight an enema was administered, composed of half a cupful of mucilage of starch, with 2 grammes (30 grains) of hydrate of chloral dissolved in an ounce of decoction althææ. This was repeated at 1 A.M. Both were retained. About 2 o'clock the patient fell into a deep sleep, which lasted almost without interruption until afternoon. At 8 A.M. the respiration was still stertorous and marked by crepitant sounds. After awaking the patient lay quietly for about two hours without fully coming to herself, and then slept one hour more, this time breathing freely.

Nov. 18.—Slept almost all the morning; was aroused only by repeated vomiting. Was aroused in the afternoon; drank half a plate of soup, and then lay quietly in the possession of nearly complete consciousness. Skin dry; temperature normal. Tongue somewhat injured. No stool; no urine.

Evening: pulse 96; temperature 37.9° (100.2° Fahr). Solution of tartarized antimony, (0.18 gramme to water 180 grms), a tablespoonful every two hours.

Nov. 19.—Pulse 109; temperature 37.8°. After the first spoonful of the solution ordered yesterday, she vomited and passed one thin stool: then slept well, and on awaking, breakfasted with a good appetite. Urine

passed spontaneously, 300 c. c. (about ℥ ix); dark in color, containing great quantities of albumen and many cylinders of fibrin. Œdema unchanged. Sol. tart. stibiati.

Evening: pulse 92; temperature 37.7° (99.8°). Perspiration abundant.

Nov. 20, A. M.—Pulse 86; temperature 37.9° (100.2°). Had slept well and felt well. Urine unchanged; cough remained as before. P.M.—pulse 88; temperature 38.4° (101.1°).

Nov. 21, A.M.—Pulse 92; temperature 37.8° (100°). Patient lay in a uniform heavy sweat. P.M.—pulse 92; temperature 38.1° (100.6°). Albumen diminished. Vomited small quantities of bright red blood towards evening, without discoverable cause. Tartar emetic discontinued.

Nov. 22.—Felt well; said the fœtal movements were no longer felt. Fœtal pulse inaudible.

The patient continued to improve, had no further attack of convulsions, and on the 4th of December there was no albumen in the urine, and no cylinders, but numerous degenerate epithelial cells and mucous corpuscles. The œdema also had disappeared. The acetate of potash had then been taken for ten days.

On the 23d of December she brought forth a macerated child, that had evidently been dead a good while. The recovery was natural and easy, without convulsions.

We have several times noticed the same sedative and soporific effect from the daily administration of a enema composed of 30 grs. of hydrate of chloral, dissolved in decoctum althææ, mixed with half a cup of warm starch. The dose may be repeated in an hour, if the first is rejected by the bowel.

The following case of obstinate trismus uteri is here presented, although the remedy was not administered per anum:

The woman was 25 years old. Last menstrual period at the beginning of February. Health during pregnancy good. Nov. 13—the waters passed off, while the os uteri was hardly open. The conjugate diameter was slightly shorter than normal: the pains were severe. Patient was brought in on the 14th, thoroughly chilled and much excited. Os 2 centimetres (¾ inch) in diameter. After 3 doses of Dover's Powder, each containing 11 grains, she became quieter. But on the 15th, in the morning, the edge of the os was found to be very tense,

forming a thick, prominent ring, and not much more expanded than before. The restlessness and complaints increased, and in the afternoon 1 drachm of hydrate of chloral, dissolved in decoction of althæa, was given in spoonful doses, and warm vaginal douches were ordered. She became quieter towards evening, and even slept some hours. At 11 the os was not dilated; while the head of the child, presenting a large swelling, stood at the superior strait in the first position. For this reason an enema of warm starch, containing one grain of extr. opii aquosum, was given; and 2 doses, each of $\frac{1}{6}$ grain morphine, were injected subcutaneously. Deep sleep followed, and the os uteri was found at 5 on the next morning to be fully dilated. Powertul expulsive contraction then occurred; and the child's pulse having sunk to 99 in the minute, while the mother was much exhausted, the forceps were applied and the child delivered at 7 in the morning. By great effort the child was resuscitated; and, on the 29th, (that is, in 13 days after the labor), both mother and child were discharged, well.

In this case the hydrate of chloral *did not* effect a resolution of the spasm of the uterus.

ART. III.—A PLEA FOR "COUNTER-IRRITATION." By F. T. MILES, M.D., Professor of Anatomy in the University of Maryland.

The present time seems strikingly marked by a freedom from the weakness of regarding things as good simply because they are old or as claiming our consideration because they have for a long time excited the respect of others. Indeed, unreasoning veneration for the past has been assailed on all sides by blows so vigorous and successful, that there seems to have sprung up a superstitious value for everything that claims to be new, an unscientific facility for accepting, without criticism, "the last word," as truth. Amongst the time-honored ideas in our profession which have been of late assaulted with vigor, by those who speak with a voice potential upon medical matters, is that of "counter-irritation"—the irritation of the skin with a view ot influencing favorably the condition of a diseased organ situated at a distance from the spot irritated—which, it is asserted, rests on no knowledge of the connection and relation of

parts, but is "a relic of notions belonging to times antecedent to the birth of scientific physiology." Referring to the application of blisters, croton oil, etc., to the chest and belly for relief of diseases of the organs within those cavities, Dickinson says: "It is easy to show that there is no direct communication in these cases, by nerves, or blood vessels between the skin and the organs which it is desired to influence, and it is not easy, or, perhaps, I may venture to say, it is not possible, to show how the deep inflammation can be advantageously influenced by such proceedings."—(Practitioner, August, '69.) Anstie expresses himself on the same subject still more strongly, and says: "If, indeed, there were any conceivable route to the part intended to be relieved, we might expect that some effect, though by no means necessarily beneficial, might be produced on the deep-lying disease."—(Lancet, February, '69.)

Believing, as I firmly do, that altering the vascular and nervous condition of portions of the skin, by various agents, does often exercise a potent influence for good on deep-lying organs when diseased, acknowledging at the same time that we are greatly in the dark as to the exact manner in which this influence is exercised, being furthermore impressed with the vagueness and indiscriminateness with which "counter-irritants" are often employed, I desire to attract attention to some "conceivable routes" by which impressions may travel from the skin to organs at a distance. And these "routes" kept in mind, I think, may assist the practitioner of medicine in observing and investigating the effects of counter-irritation in disease, and lead to the formation of rules (so much wanted) in relation to the *kind* of irritation of the skin best in particular cases, and when, where, and how it should be induced.

As to the term "counter-irritation," at which some have taken exception, doubtless it is a bad on, if we confine ourselves to its literal meaning, and we must admit that it had its origin in false ideas; but how many of our scientific terms have secondary meanings connected with them much more closely than—nay, to the exclusion of —the primary ones; meanings, moreover, which have changed with the requirements of scientific progress, and which in nowise mislead or hamper freedom of thought. I am sure we may claim that the *idea* involved in the practice of counter-irritation is by no means that of

shaking a "red rag in the faces of malicious demons," nor of applying remedies to surfaces with the hope that by some magical influence they will affect "organs which lie in a substratum vertically below, *though without anatomical connections*," but it is rather that of modifying the vital activity of one part of the organism with a view to produce a modification favorable to health in the activity of another at a distance from but in demonstrable connection with it. And surely it is but natural that such an idea should present itself to our minds, seeing that modification of activity, and development of one part of the body in accordance with changes occurring in another, even when that other is structurally and functionally distinct from it, is a constantly occurring phenomenon, constituting those "sympathies" which hava always attracted the attention of physiologists, though so little has been said in their explanation.

The blood vessels, lymphatics, and nerves are the obvious channels through which influence can travel from one part of the body to others at a distance; and whilst all who believe in the beneficial effects of counter-irritation invoke the agency of one or all of them to explain it, I do not think sufficient effort, and in the right direction, has been made to form an idea of the mechanism of their action, or to build up some hypothesis which may assist us in explaining, by their mediation, the advantages we believe we have seen from the use of blisters, croton oil, or other irritants to the skin.

One of the most constantly recurring conditions of tissues and organs, is a change in the circulation, by which more or less blood than in health passes to the part affected, and flows through its capillaries with a rapidity which is above or below the normal standard. We look upon this alteration of the circulation in a diseased organ as so essential a part of its morbid condition that we turn our attention, in many cases, almost exclusively to combat it, and, in an external part, we extract blood, apply heat, cold, stimulants, astringents, etc., with the design of acting on its blood vessels, though, perhaps, not being always clear in our minds as to the exact changes we desire to bring about. Now we know that the amount of blood which goes to any part depends on the amount of contraction existing in the walls of the small arteries that deliver the blood to its capillaries (these last having no active contractibility in themselves), and that the

muscular tissue of the walls of these arteries is supplied with nerves—the "vaso-motor nerves"—which thus regulate the amount of arterial contraction, and consequently the supply of blood. These "vaso-motor nerves" are generally spoken of as derived from the "sympathetic system," but we must bear in mind the very close connection of this system with the cerebro-spinal, and the large number of cerebro-spinal fibres found in almost every so-called sympathetic nerve. Indeed, it is probable that the most, if not all, of the motor fibres of the sympathetic system are derived from and influenced directly by the cerebro-spinal centres. We must conclude from experimental section and irritation of the spinal cord, that the vaso-motor nerves all run to this organ, and, passing upwards, are connected with a common centre, lying, most probably, in the medulla oblongata. This nervous centre, which presides over the vaso-motor nerves of the whole body, is in a continual state of excitement normally (probably acted on like the respiratory centre, by the carbonic acid of the blood), and thus maintains the smaller arteries in that state of tonic contraction most conducive to the delivery of the appropriate quantity of blood for the healthy nutrition of each organ. By an irritation propagated to this centre from the periphery, its activity may be increased so as to produce extraordinary diminution of the calibre of the small arteries, even to their obliteration. Again, a centripetal irritation may have an "inhibitory" influence on this centre, causing its action on the vaso-motor nerves to diminish or cease; this will be accompanied by a dilatation of the arteries, thus permitting a greatly increased flow of blood through them, in accordance with the blood pressure in the aorta and its branches. A remarkable example of this inhibitory influence is seen in the experiments on the "nervous depressor," a branch of the vagus going to the heart, which being irritated, dilatation of all the fine arteries of the body follows. Now, that this centre may have its influence on the vessels of a particular region, increased or diminished, thus causing a diminished or increase flow of blood to that part, is obvious from the daily observed phenomena of transitory pallor, and coldness, redness, and warmth of protions of the skin, the effect of its reflected excitement or paralysis. Tholozan's experiment of dipping one hand in ice-cold water, thereby causing coldness, not of the

whole body, but of the other hand, with contraction of its vessels, is an excellent example of the reflection and localization of the activity of the vaso-motor centre. Bernard's experiments on the submaxillary glands are examples of irritation of this centre through centripetal nerves, causing a cessation of its action, causing dilatation of vessels confined to one organ. Loven's experiments further show that when a cutaneous sensitive nerve is irritated, the impression can cause, by reflex action through medulla, either elevation of the tone of the vaso-motor nerves of the part (causing contraction of the arteries), or depression of tone (causing dilatation). And if "it is [see Journal of Phys. and Anat.] impossible in the present state of our knowledge to foretell in what cases it shall increase or restrain the contraction," we have yet a most valuable indication of how modified activity of one part may induce changes in another at a distance, and a standpoint from which to investigate the modus operandi of counter-irritation.

Though the effect of modified activity of the vaso-motor centre on the internal organs is difficult to investigate, enough has been observed to make us feel confident that impressions on centripetal nerve-fibers can be reflected from it to them in a way to modify notably their circulation. Brown Sequard has seen the vessels of the piamater of the cord contract from mechanical irritation of the kidney; Nothnagel found that electrical irritation of cutaneous nerves, such as the trigeminus and sciatic, causes contraction of the vessels of the piamater of the brain; and Pfluger that tetanic excitement of the anterior roots of the spinal nerves in the frog, caused very notable contraction of the arteries of the mesentery.

Now let us try and trace a route by which our counter-irritants, applied to the skin, may affect the vascular factor in the disease of an internal organ. And for the organs contained in the aodomen, although they have been asserted to "lie in a substratum vertically below though without anatomical connections" with the skin of the belly, that "it is easy to show that there is no direct communication by nerves or blood vessels between the skin" and themselves, I think their connections with the cutaneous surface most obvious of all. The skin over the abdomen is supplied by sensitive branches from the intercostal nerves, each of which is connected by interchange of fibres with the ganglion of the thoracic por-

tion of the sympathetic, in proximity to it. From these ganglia are derived the splanchnic nerves, which are the vaso-motor nerves of the abdominal organs (indeed, the most potential vaso-motor nerves in the body), which also act as inhibitory nerves, though, under certain circumstances, as excitors, of the intestinal movements, and which finally exercise an undoubted influence on the secretion of the urine. It is to be remarked that four-fifths of the fibres of the splanchnics are derived from the intercostal nerves, their anterior roots, only one-fifth from the sympathetic. Here, surely, we have "a conceivable route" for impressions made upon the skin to travel to the abdominal organs. Lovin's experiments show us that an irritation transmitted centripetally through cerebro-spinal fibres is reflected back upon the vessels of the part through the motor fibers of the same cerebro-spinal nerves. Is it extravagant to suppose that the irritation of the sensitive fibres of the intercostals should be reflected through the motor fibres these nerves supply in such number to the splanchnics, and thus come to affect the organs of the abdomen? The application of mustard or other irritants to the skin of the belly, for the relief of pain arising from spasm of the intestines, is it mere superstition, or does it find an explanation in the reflex excitement of the splanchnics, causing cessation of the spasm, in virtue of their inhibitory influence on the intestinal muscles ?* The route of influences from the skin to the thoracic organs will be fundamentally the same as for those of the abdomen, viz: an irritation propagated to the vaso-motor centre, to be thence reflected through the nerves upon the vessels of a particular organ.

It is true that we are very ignorant as to the exact effect on a diseased organ an excitement or paralysis of its vaso-motor nerves may produce, and indeed whether such an action will necessarily exercise a favorable influence on it; but, alas! how often is it that we cannot certainly say in what consists the variation from health, or what are the conditions we would modify if we had the power? Would we cause contraction of the vessels to "allow the overloaded capillaries to disgorge themselves," or bring about dilatation to force by a vis a tergo the blood into brisker circulation, and "relieve the conges-

*Do not the reflex movements of the hands upon the belly, in one suffering from colic, point to this mode of relief?

tion"? Is the pain we seek to mitigate caused by too much or too little blood to the nerves? What are the essential conditions of "torpid" or "irritable" organs? Why do "cells proliferate" abnormally? Meanwhile we have, in the traceable connection of the skin with the deep-lying organs through the nerves, and the reflex influence of the vaso-motor centre, sufficient explanation of the favorable effects of counter-irritation to shield from ridicule those who claim that these good effects have come within their experience, and, more than all, a point of departure for observation and investigation into the use of counter-irritants, which, we may hope, will more and more remove their application from the region of pure empiricism.

Our attention cannot be directed to the reflection of an impression upon the nerves which terminate in the muscular walls of the vessels without having recalled to our minds another mode in which nerves end, more obscure, but having probably a still more important connection with the effects of counter-irritation. I allude to the discovery of Pfluger (which seems to have been substantiated by others), that the nerves going to the submaxillary gland (nerves whose irritation, direct or reflex, modify the secretion of the saliva), end by blending the extremities of their fibres with the nuclei of the secreting cells of the gland. This termination of nerves, by direct continuity with cells, which is more and more recognized by histologists, (indeed, Ranke thinks it is so common, that the nuclei may be regarded as nervous organs), gives strong support to the idea that an influence through the nerves directly affects the nutrition of organs and tissues, and allows us another "conceivable rout" for reflected impressions to reach, with their influence. the inmost recesses of organs. The subject of reflected impressions, which underlies the idea of counter-irritation, is indeed a vast one, and must needs be involved in obscurity, since it requires for its elucidation a knowledge of the functions of nervous tissues, the most complex and highly organised matter; but enough is known to enable us to investigate it intelligently, and hopefully.—*Balt. Med. Jour.*

Art. IV.—Hydrate of Chloral.

From the Journal of Applied Chemistry we extract: "Doctor Bouchut confirms the observations made by Liebreich. The contradictory opinions expressed in reference to the action of chloral are due to the impurity of the material employed. With the hydrate of chloral pure, the results are rapid, evident, energetic. They are hypnotism (sleep) the most tranquil, and sometimes an absolute insensibility. The liquid chloral ought never to be employed. The solid hydrate ought always to be taken for solution in any convenient agent. The acicular crystals, or the white snowy mass, can generally be assumed to be pure; but, to make sure of this point, it is well to test it with a concentrated solution of potash. If the hydrate of chloral is pure, it will color the potash to a scarcely appreciable faint yellow tinge, and disengage a distinct odor of chloroform, and sometimes the liquid will remain perfectly colorless. If the liquid becomes brown, and disengages the vapor of chloroform, mingled with chloracetic acid, it is a proof of impurity. The liberation of acrid, disagreeable gases, is another proof of impurity.

The Lancet and Observer gives a translation from the Bulletin de Therapeutique, of which the following are the conclusions:

"1. The hydrate of chloral is a powerful sedative of the motor and sensitive nervous system.

"2. If the hydrate of chloral is not very pure, so that by the addition of potassa to a solution, the vapors of chloroform are liberated without discoloration of the liquid, it is without action, and may be very dangerous.

"3. Hydrate of chloral should not be administered to the adult in doses exceeding seventy-five to ninety grains, and in children it is necessary to commence with fifteen to thirty grains.

"Preparations of hydrate of chloral should not be prepared too long previous to administration, for they may change and lose heir efficacy.

"5. Hydrate of chloral may be given by the mouth, or in enemas, which produce the same effect as when administered by the stomach; but the latter method is preferable.

"6. Hydrate of chloral should not be given to persons affected with organic disease of the heart or brain.

"7. It is by the production of chloroform in the blood,

under the influence of its alkaline reaction, that ingested chloral causes sleep and anæsthesia.

"8. It is dangerous in man to administer hydrate of chloral by subcutaneous injections.

"9. Under the influence of hydrate of chloral the arterial tension is augmented, and the frequence of the pulse is somewhat increased; and this tension diminishes on awaking, as is shown by sphygmographic traces.

"10. The urine of chloral sleep is neutral, and boiled with Fehling's liquor does not at first reduce the salts of copper but the next day, when we find chloral passed by the kidneys, the urine is more dense, and reduces the salts of copper, so that we may be led to think there is a glycosuria, which in fact does not exist.

"11. Hydrate of chloral seldom causes vomiting, and never purging.

"12. The temperature is slightly lowered by medicinal doses of hydrate of chloral, and it should, therefore, be classed as a cooling remedy.

"13. Under the use of hydrate of chloral, cutaneous perspiration is diminished, and the skin is somewhat drier than is normal.

"14. Hydrate of chloral has this advantage, that we can regulate the dose necessary to produce anæsthesia, while in administering chloroform we cannot control precisely the quantity of vapor; when we employ chloroform we are not exactly sure of what we are doing, and it is this that renders it dangerous.

"15. The action of hydrate of chloral is exactly that of chloroform, but it is more slowly produced, and lasts much longer.

"16. With some persons under the influence of chloral there is a muscular and moral agitation resembling alcoholic intoxication, but this intoxication presents nothing disagreeable or disgusting.

"17. In nearly every case the sleep is characterized by well pronounced anæsthesia, and seldom accompanied by hyperæsthesia.

"18. The degree of anæsthesia is proportionate to the dose employed. In the dose of thirty to seventy-five grains, according to the age, it is complete, and permits the application of Vienna paste cauteries without pain, or even the extraction of teeth.

"19. Compared with opium, which causes vomiting, which destroys the appetite, which heats and stimulates,

which constipates, which excites perspiration, which produces sleep slowly and heavily, which leaves, on awaking, distress and prolonged somnolence, the hydrate of chloral neither vomits nor constipates, and improves the appetite; it lessens perspiration, and cools the surface; it causes quick and prolonged sleep, and on awaking leaves neither somnolence nor hebetude of mind, and can be taken several days in succession.

"20. In large doses, hydrate of chloral produces algidity, while opium, on the contrary, causes heat and diaphoresis.

"21. We may repeat the dose of forty-five to seventy-five grains two or three times during the day, without inconvenience, and with the result, each time, of several hours' sleep, separated by a short period of wakefulness.

"22. Therapeutically considered, the hydrate of chloral subdues the violent pains of gout, and the intense sufferings of renal colic, or large burns and toothache. It is, in a word, the first of anæsthetics administerable by the stomach.

"23. In cases of accouchment in which we desire to resort to chloroform, hydrate of chloral may be substituted, to appease normal pain, to facilitate obstetrical operations, and to combat eclampsia.

"24. It is the most prompt and efficacious remedy, in intense chorea, when we wish quickly to suspend an agitation which menaces the days of the patient."

ANALYTICAL DEPARTMENT

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANLAYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet, etc. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D.

Simple Syrup in Granular Lids.—In the Lancet, Feb. 12, '70, Lawson Tait records his experience of the beneficial effects of this simple remedy in the above affection. He had employed, with doubtful success, all the remedies ordinarily used, when upon consulting his notes, it was shown therein that the "most successful treatment for granular lids was that which seemed to act by mechanical

lubrication. With this view he was induced to employ simple syrup, in the proportion of a half ounce of sugar to one ounce of water. This was applied as often as the eyes felt uneasy. For the first few days the symptoms are rather worse, but afterwards there is a marked improvement, and gradually the eyes clear up and the granulations diminish." This result occurs only in uncomplicated granular lids.

Epithelioma of the Lip.—At the University College Hospital, Mr. Erichsen has recently operated for epithelioma of the lip, upon a patient in whom there was an enlarged gland, just below the ulcer, near the inferior border of the jaw. "Mr. Erichsen holds that excision of a cancroid growth is not contraindicated by the presence of an enlarged gland."

Intermittent Hœmatinuria.—At Guy's Hospital, Dr. Habershon reports a case of this disease, relieved by quinine and arsenic. There was evidently an imperfectly developed ague pointing to malaria as the cause. Other cases have been described by leading English physicians, under the name of *intermittent hœmaturia.* Dr. Gull, however, thinks that "hæmatinuria" is more appropriate; the microscope reveals granular matter and casts in the urine but no blood-corpuscles.

Stricture Treated by Holt's Method.—Mr. Rutherford Adams, at the Corydon General Hospital, claims for Holt's method the following advantages: "1. That there is literally no danger in the operation if the instrument be passed through the urethra and not through a false passage, and if the patient is not the subject of kidney disease. 2. That the mucous membrane is not lacerated. 3. That if common care is used, the stricture does not return, but is always easily kept under control."

Treatment of Acute Orchitis.—Frederick Fry, F.R.C.S., in a letter to the Lancet, objects to the heroic treatment of incision for the cure of orchitis, advocated by Dr. Henry Smith. Mr. Fry takes the liberty to "record his opinion" that Dr. Smith would not allow even so distinguished a surgeon as Sir Wm. Fergusson to incise his own testicle for the relief of the severe pain attending orchitis. Mr. Fry is very certain that no surgeon could

ever stick a knife into his testicles. As a substitute for such treatment, Mr. Fry suggests the following, which he has employed with success for nearly thirty years. The administration of one drachm of the tincture of hyoscyamus four times daily and a smart purgative (half an ounce of salts), every morning. Under this treatment the patients were able to follow their ordinary employment aud the cure was usually affected in a week, ten days or a fortnight.

Treatment of Fractured Femur in Infants.—It has been determined by experience at St. Thomas' Hospital, that extension and counter-extension by the long splint and perineal band, and also the employment of the plaster of Paris bandages, are not sufficient to retain the fractured ends of the femur *in situ*, in infants. The following plan has, therefore, been adopted with better results; fix the limb upon a firm, smooth bed, by sand bags, and keep it completely at rest by as many more, placed crosswise, as are necessary.

Forced Flexion of the Limbs for the arrest of Traumatic Hœmorrhage.—Dr. Adelmann, of Dorpat, advocates the revival of this old method for arresting hæmorrhage. He thinks that the non-professional public should be made acquainted with it. For instance, when there is hæmorrhage from the ulna artery the hand should be forcibly flexed upon the forearm; and the former upon the arm.

Subcutaneous Injection in Psoriasis and Eczema.—Dr. Lipp had derived benefit from the employment of arsenious acid in the the treatment of these affections, after Fowler's solution, administered by the mouth, had failed. He then sums up the advantages of this over other methods: "The certainty of absorption; the non-interference with the organs of digestion; the small doses used, and the short treatment."

Treatment of Uterine Hœmorrhage after Labor.—Robert Barnes, in a letter to the Lancet, urges caution in the employment of the "ready method," recommended by Mr. Broke Gallway, for the arrest of *post-partum* hæmorrhages; which consists in the injection of cold water into the cavity of the uterus. Mr. Barnes submits as a rule

that "if cold in any of its varied modes of application, do not succeed *at once* in arresting hæmorrhage, to pass promptly to the surer agency of perchloride of iron." The most convenient solution is four ounces of the strong solution of the perchloride of iron with twelve ounces of water. "It should be injected *very gently*, so that the fluid shall trickle down over the inner surface of the uterus."

How to Cover the Taste of Chloral.—Mr. P. Squire, in a lettle to the Times and Gazette, states that peppermint water, sweetened with a little syrup, is the best vehicle to cover the taste of this nauseous drug. If the peppermint is objected to, the syrup of tolu is the best substitute.

Tapping the Chest in Acute Pleurisy.—Dr. Murchison, in the Lancet, reports the case of a boy, aged seven years, in which the chest was tapped for the relief of displacement of the heart to the right side by reason of the effusion. There was great dyspnœa, frequent feeble and irregular pulse. In case of extensive pleuritic effusion the operation is performed early, for several reasons, viz: 1. The formation of pus and empyema may be prevented. 2. The lung has a better chance for expanding and recovering its function. 3. (The main object) the restoration of the position of the heart.

Carbolic Acid.—In general, the dose of carbolic acid is one grain to an ounce of water. As a gargle, one to two grains to an ounce of water. As an injection, one grain to four ounces of water. As a lotion, fifteen grains to an ounce of water. As an ointment, sixteen grains to an ounce of lard. As a liniment, one part to twenty of olive oil. As a plaster, one part of carbolic acid to three parts of shellac.

Pulmonary Hæmorrhage can be most successfully treated by the application of ice to the chest, the administration of ice internally, and the hypodermic injection of the sulphate of morphia with the fluid extract of ergot. The use of medicine by the mouth usually induces nausea and vomiting, which increases the flow.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LESSONS FROM THE MEDICAL CLINIC AT THE "HOSPITAL DE LA CHARITE," GIVEN BY S. JACCOUD, Assistant Professor to the Faculty of Medicine at Paris, Physician to the Hospital St. Louis; Chevalier of the Legion of Honor; Corresponding member of the Royal Academy of Science of Lisbon, and of the Medical Societies of Berlin, Vienna, Wurzburg, etc. Containing 29 Wood-cuts and 11 Chromo-lithographs.

[Translated by Dr. J. D. JACKSON, of Danville, Ky.]

FOURTH LESSON.—OF DILATATION OF THE BRONCHI—OF PULMONARY SCLEROSIS.

History of a patient suffering with multiple lesions of the lung: Diagnosis of the physical state of the organ. Difficulties of interpretation.

Differential diagnosis of dilatation of the bronchi and tuberculous caverns. Insufficiency of physical signs. Importance of the general state, and mode of progress of the malady. Indirect diagnosis of the *bronchectasie* by the sclerosis of the lung. Characters and signs of this lesion. Its pathogenetic action upon the œdema of the inferior members. Coëxistence of bronchial dilatation, sclerosis, and tubercles. Results of autopsy.

GENTLEMEN: I propose studying to-day, the patient who is lying in No. 12, of our ward, St. Charles. We have there, a beautiful example of the complex lesions of the respiratory apparatus, and this fact, already interesting because of the peculiar difficulties of diagnosis, brings us besides a lesson of general bearing, and which is very often forgotten. It shows us, that in certain cases, the most vigorous methods of physical exploration, are powerless of themselves, to furnish the diagnosis of the disease. In the individual of whom I am going to speak to you, it is easy with a little attention, to establish the whole of the physical signs very clearly; it is

also very easy to deduce from these signs the physical state of the pulmonary apparatus, but this is all; for going farther, for substituting the diagnosis of the disease for that of the lesions, it becomes necessary to interpret phenomena of another order, those which no longer have the quasi mathematical exactitude of the results furnished by percussion and auscultation.

The *exposè* of our patient, will prove to you the justness and opportuneness of these reflections.

This is a man of fifty-five years, but seemingly, at least sixty-five—he is pale and emaciated, tormented by very frequent and violent fits of coughing, and is a prey to an almost continuod uneasiness of breathing, which is especially marked of a morning and evening; the inferior extremities are the seat of an œdematous infiltration, whicb mounts even up to the knees; the feebleness is considerable, the voice is faint, without being hoarse; for the rest, he had no fever at the moment of visit, and at the side of his bed, there was a spittoon two thirds full of a perfectly homogeneous purulent matter, unmixed with any mucus. The general diagnosis, is thus at once evident, he is snffering with a chronic disease of the respiratory apparatus.

The commencement of this disease dates back three years. Until the age of fifty-two, this individual enjoyed excellent health; this is one of the details to which he always returns with complaisance; but at that time, without appreciable cause, he commences coughing, he spits up blood, he loses strength and emaciates; the respiration from being shorter and shorter, has become painful; then at the end of two years, he is seized with acute pulmonary phenomena; he makes a stay of two months and a half at the Pitiè hospital, and goes out from it not only cured of his acute malady, but much improved as to his old troubles. This, however, was but

a momentary remission; he had quitted the hospital but a few weeks, before the cough and shortness of breathing returned as painfully as in the past, and the expectoration from that time, takes on the characteristics which we see to-day, with this peculiarity, that it is most abundant in the morning, and presents itself then under the form of a true vomica; in the meantime, the feebleness and emaciation progress anew, the limbs are swollen in the evening, and arrive gradually to the persistent infiltration which we now see: soon the patient finds it impossible to quit his bed for more than an hour or two a day, and thus as you have seen him, he enters our service, where you have been able to study him for about a couple of weeks past. No new phenomenon has arisen, but the symptoms themselves have been aggravated; this man remains constantly abed, but despite this, the œdema of the limbs persists, the emaciation continues, although he has no diarrhœa, but it is sufficiently explained by the enormous losses resulting from the expectoration; the organism drains itself away in the face of this abnormal expenditure, incessantly recurring; finally, he has fever of an evening, and each access terminates in abundant sweatings, which further concur in the enfeeblement of the patient. Add the earthy and wan facial aspect, the total disappearance of the subcutaneous adipose tissue, the atrophy of the muscular masses, and you will recognize at a glance, a complete and faithful tableau of that consumptive desiccation which bears the name phthisis. Yes, only judging in a Hippocratic sense of this word, and in accordance with the general symptoms, our man is most clearly phthisical, any other denomination cannot be applied to his state.

But is this appellation equally just, in the restrained sense which contemporaneous pathological anatomy has imposed upon it? This incontestable marasmus, is it

due to the presence and evolution of tubercles in the lungs? This is what we have to examine.

You will recall the attention with which I explored the chest of this man, with what perseverance I have renewed my examination many days in succession; it is because this research has been far from responding to my expectation, and that, having deduced the consequences of the physical phenomena, established at first, it was necessary to assure myself of their exactitude and constancy. To-day my conviction is established; and I can, without fear of error, exhibit you the results which auscultation and percussion had furnished in our patient, after which we will take up the more difficult question of their interpretation. These results are very complex, but a detail of them is not useless, and I pray you to follow attentively this description, without being repulsed by its aridity.

On the left side everything is very simple: an exploration by all the methods, reveals nothing but the normal phenomena; it is evident that the left lung is without trouble—it is perfectly sound. This first result, we may say in passing, is inclined to surprise us, considering the ancientness and gravity of the disease of this man.

On the right side, percussion gives anteriorly, an absonte dullness from the clavicle to the inferior limit of the thorax: this dullness, which confounds itself with that of the liver, is besides uniform; that is to say, it presents in all this anterior region the same characters; there is everywhere the same absence of resonance, the same resistance under the finger. These phenomena are at all points alike—in the axillary region, above and below. Posteriorly, there is found still the same dullness in the two inferior thirds of the thorax; in the superior third the normal sonorousness is less completely lost, but it is very much less, however, than that of the sound side.

By reason of these characteristics and their extent, this dullness naturally awakens the idea of a vast pleural effusion, which has pushed the lung from the thoracic walls; but a new sign soon comes to rectify this precipitate judgment: the vocal vibrations are manifestly exaggerated in all the regions of dullness, and an accessory sign is, the liver is not pushed downward. There then cannot be any question concerning the presence of liquid in the pleura; and these remarkable results of the percussion ought to be taken as the signs of an almost complete impermeability of the lung: only the superior third admits still sufficient air to furnish a faint, clear sound.

We will now interrogate auscultation. Anteriorly, under the clavicle, there are simple sub-crepitant râles up to great bullæ, with a combination of the bronchial souffle; the voice and the cough, offer an exaggerated sound: but in proportion, as one descends, the bullæ of the râles become greater and greater, and, on a level with the nipple, there is nothing but the sub-crepitant râle—so coarse, that you are willing to consider it of the gurgling type; the bronchial souffle gives place to a cavernous souffle of metallic pitch; the voice is transmitted, clearly articulated—there is here pectoriloquy. These phenomena, so clearly marked, exist in a space scarcely equalling in size the palm of the hand; lower, that is to say, from the nipple to the inferior margin of the lung, there is perceived an intense bronchial souffle, and a rude bronchophony strikes the ear; but in the centre of this zone of uniform soufflation, there are fonnd large humid râles, and upon two limited points, there appears gurgling, the cavernous souffle, and pictoriloquy to the level of the nipple.

In the region of the axilla, the signs are the same in all which concerns the râles properly so-called, the bronchial souffle and the bronchophony; but there is no caver-

nous souffle; that which you perceive at two different points, is but the transmission of the souffle produced anteriorly at the height of the nipple, and on a level with the middle portion of the inferior lobe of the lung. In return, we establish in this region a new phenomenon: exactly at the base towards the costo-diaphragmatic border, there is heard twice in the act of respiration, but especially during inspiration sounds, isochronous with the movements of the lung. These bruits, which give to the ear the sensation of a large, dry, rough crepitation, are not modified by the cough; by their cracking character, they are distinguished very well from the humid râles disseminated in the lung, by their exceptional intensity, they approximate the sounds of new leather; briefly, they are the pleural friction sounds of an unusual magnitude and force.

Positively, auscultation reveals in the supra and infraspinous fossæ, a rude respiration, with a prolonged blowing sound on expiration; in the deep inspirations and more markedly still, during the paroxysms of coughing, there appear small bruits, which, by their sudden succession, imitate very well a jerking roll, (*roulement suecadé*), these are the moist cracklings; on a level with the inferior angle of the scapula, you find though farther off from the ear, the cavenous souffle, gurgling and pectoriloquy, beneath we can only establish the bronchial souffle and bronchophony, but this souffle, disseminated over two or three points, takes positively the cavernous character; finally, at the base alone, the pleural friction sounds are more numerous, and still more marked than in the axillary region.

Here are the results of exploration of the lung; they are assuredly very complex, but nevertheless we can with great certitude deduce from these signs, the physical state of the organ; it is not there that is the difficulty.

I have before indicated to you, the signification of the dullness furnished by percussion; the pulmonary par-

I have before indicated to you, the signification of the dullness furnished by percussion; the pulmonary parenchyma is impermeable to air, except at its summit. The subcrepitant râles of variable volume which are scattered throughout almost the entire organ, denote the presence in the bronchi of a great quantity of liquid; it is the passage of air through this bronchial liquid which produces the bullæ of the rhonchus. The humid cracklings perceived posteriorly and superiorly, indicate the entrance of air into elements more resistant than liquid, bnt which they can still traverse; these are semi-solid elements, or if you wish, in process of softening. The gurgling, the cavernous souffle and pertoriloquy, constituted by their union over a limited point, what I call the cavitary phenomena; they are the signs of caverns, and reveal the existence of abnormal cavities in the lung, accessible to air. But, as these phenomena show themselves anteriorly upon three different points, and posteriorly upon other points very circumscribed, we are certain that multiple caverns exist in the lung; they are all of small volume, excepting the most elevated, that at the level of the nipple, and which presents a more considerable extent. The bronchial souffle and the broncophony, are positive signs of compression or condensation of the pulmonary tissue; concerning compression, there can be no question, since there is no pleural effusion, there is then an abnormal condensation of the tissue which is the cause. But the bronchial souffle is disseminated throughout the totality of the organ, it occupies all the zones intermediary to the caverns, one finds it even anteriorly beneath the clavicle along with the large subcrepitant râles, therefore the condensation of pulmonary tissue is general; it is only posteriorly, at a

level with the points of softening that it is not yet complete. Finally, the pleural friction-sounds at the inferior portion, demonstrate the existence of false membranes upon the two surfaces of the pleura, but only for a small height.

Such gentlemen, is a faithful and rigorous interpretation of the established phenomena; thus far there is no place for any doubt, for any uncertainty, and it is marvellous indeed, to be able to discover thus with a precision entirely mathematical, the physical condition of an organ inaccessible to view. This is the triumph of auscultation and percussion, but it is also the limit of their power. To resume, our patient presents the left lung sound, and in the right lung the following lesions: softening at summit and rear, multiple caverns disseminated at different heights, condensation and general induration of the tissue intermediate to the cavities, false membranes at the interior part of the pleura, and an abundant liquid in the bronchi; an examination of the sputa permits us to add that the liquid is pus.

What signifies these multiple lesions? To what malady do they appertain? This, now, is the matter in question to establish.

This last step in diagnosis could be at once taken, if we had to do with a man still young. Suppose you should find such a complication of symptoms in an individual of from twenty to thirty-five years, you would not hesitate, nor ought you even to hesitate to attribute all these phenomena to a pulmonary tuberculization advanced at some points to the period of softening, and in others to the period of elimination and consecutive excavation. Under such conditions of age, the nosological diagnosis can be formulated, I repeat it, without mere hesitation than the anatomical diagnosis by and by; but there are however against it, two circumstances entirely unusual,

and to which I expressly call your attention, for I will soon invoke them as elements of value: these two circumstances are the absolute integrity of one of the lungs, and on the diseased side, the condensation, and complete impermeability of the parenchyma in the intervals of the cavities.

But, in the midst of these realities, we cannot proceed so fast; not only is this man old (fifty-five years), but his disease is a disease of the aged; its beginning which we can perfectly establish, only goes back three years, to which time, that is to say, to the age of fifty-two years, he had always had good health; he had never been subject to any thing like an habitual cough, and whenever he contracted a cold the indisposition was not serious, nor did it ever have an abnormal persistence. In a word, we are very certain that this man never suffered with his chest until the moment he was taken with repeated hæmoptyses, and a cough, which slight and dry at first, gradually assumed the characteristics which you see in him to-day. Reflect deliberately, I pray you, upon this distinction, it is a capital one: it is not a question in the present instance, of a malady developed in youth or adult age, and the evolution of which exceptionally slow has permitted a prolonged state of good health up to fifty-five years; it is a question of a malady comparatively recent, the first manifestation of which have appeared at the age of fifty-two years. Now, these considerations, the value of which is the same in all conditions of like character, disturb the clearness of diagnosis, because they extend the scale of possibilities; it is not permitted us to pronounce at the onset, a discussion of a serious and profound character becomes necessary.

In fact it is possible to come to these conclusions: that there is tuberculisation of the lung, a dilatation of the bronchi, or a union of these two lesions.

Bronchial dilatation you know, presents a frequency increasing with the age, and without ignoring these facts demonstrating its existence in the child under the fifth year, and in the adult before the fortieth year, it is permitted us to state that this lesion is especially observed from the fiftieth to the seventieth year. Barth, to whom science is indebted for an excellent work upon this subject,* has seen twenty-six cases of bronchial dilatation during a residence of six years in the Salpetriere hospital, where only old men are admitted, whilst during a period of fourteen years, he has only encountered eighteen examples in general hospitals. The frequency of the lesion after fifty years, is without doubt, a prime considerotion in admitting its possibility in our patient. On the other hand, amoug the anatomical types which this alteration of the bronchi presents, there is one which squares marvellously with the physical disorders which we establish in the lung. The dilatation, indeed, can be uniform, or partial, or general; Barlow (of London), has published a remarkable example of this last variety, and Barth has shown one to the Societè Anatomique. † The dilatation affecting many successive points of the same bronchus, can be bead-like (*en chapelet*) or moniliform, a rare type which has been pointed out by Elliotson; finally, and it is this which is much the most common, the dilatation assumes the form of an ampulla or sac; if these ampullæ are multiple, the lung is riddled with cavities, which containing liquid, and communicating largely with the bronchial ramifications, furnish all the physical signs of tuberculous caverns. It is this last type which is to be considered in the case of the man in St. Charles' ward.

The differential diagnosis of tuberculous softening and

* Barth, Recherches sur la dilatation des bronches. (Memoires de la Societe Medicale d'Observation, 1856.

† Barlow, Guy's Hospital Reports, 1847.
Barth, Bulletin de la Societie Anatomique, 1853.

sacciform bronchectasie is, without contradiction, one of the most difficult in the pathology of the respiratory organs; thereupon errors have been committed by men of the greatest distinction, and when I recall to you the fact that Lænnec, Louis, Lherminier and Andral have been deceived, I will doubtless in advance be excused if I here commit a mistake in interpretation. The difficulties of diagnosis have besides singulary increased of late years—and for this reason: there have been invoked for a long time as differential signs, three circumstances which numerous observations have set aside the value of. Relying upon the almost constant reports which had united dilatation of the bronchi with bronchial catarrh, it had been concluded that bronchectasie ought always to be bilateral; now, Stokes has made known to us a case in which he had found on autopsy the left lung riddled with sacciform dilatations resembling abscesses, whilst the right lung was simply emphysematous; numerous pleural adhesions existed on the two sides.* Still later, Barth has done full justice to this error in showing that, in forty-three cases, the dilatation had been unilateral twenty-six times. It had been thought that we had it in our power to draw a distinctive sign from the seat of dilatation; it occupied, so it was said, the inferior part of the lungs, whilst the tuberculous caverns are almost always seated at the summit, a premature assertion, contrary to that of Lænnec, and, which cannot stand before observation. In thirty-seven cases Barth has found bronchial dilatation as often at the summit as at the base. Finally, hæmoptysis, which it was attempted to make a characteristic symptom of tubercles, is very frequent in bronchectasie, especially in the ampullary form, and the florid and frothy character of the blood expectorated;

* W. Stokes: Treatise on the Diagnosis and Treatment of the Diseases of the Chest. Dublin, 1837.

though more common, indeed, in tuberculisation than in dilatation of the bronchi, is not a sign upon which one can count, because it is not constant.

'You see then—everything having been considered—three elements of diagnosis which it is necessary to lay entirely aside, because of liability to error. To what then can you address yourself to clear up your opinion? Is it to those physical signs furnished by auscultation and percussion? No; an hundred times no: they have not in space any differential value, and the reasons of this powerlessness will show you clearly the natural limits of these valuable methods of exploration. The results which they have furnished you, are those of physical phenomena; they reveal to you the physical conditions of the organs, with a certainty bordering on infallibility; but this is all they can do, and they are absolutely dumb as to the pathological causes of these disordered mateials. The phenomena which I have called cavitary, when taken together, indicate plainly the presence of abnormal cavities communicating with the bronchi; but whether that cavity results from a tuberculous softening, from a bronchial dilatation, from the evacuation of an abscess, from a blood focus, or the elimination of an eschar, these signs are always the same, and therefore they cannot enlighten you regarding the cause of the lesion, which they have unveiled to you with a precision so remarkable. Thus you discard successively the greatest part of the means of diagnosis, and there only remains to fix your judgment the exact knowledge of the initial periods of the disease and the consideration of the general state of the patient.

When we can follow the patient from the beginning of his affection, or rather, when the intelligence given is of sufficiently precise a character to permit the retrospective reconstruction of his history, we arrive at really

important opinions. In the majority of cases, bronchial dilatation arises in an individual who has for some years labored under a chronic bronchitis, with more or less frequents exasperations: the cough is not slight and dry, as in the beginning of tuberculisation, but it is from the first, of a thick moist character; a little later, at a time when the sputa of tuberculous subjects shows nothing characteristic, the expectoration is already very abundant—each effort at coughing is followed by the easy expulsion of a great quantity of muco-purulent, or purulent liquid; collected in a vessel, these sputa form a greenish mass, resembling perfectly homogeneously consistent pea soup; and I have never seen here the jagged nummulated appearance of the spittle of advanced tuberculisation; often, also, they have a viscosity and adhesiveness not found in this last expectoration; hæmoptysis, I have taken the care to tell you, exists equally in the two affections; but whilst the hæmoptysis of turberculosis is a phenomenon at the outset, or from the first period, that of bronchectasie is a later symptom, which does not show itself before the formation of the bronchial *ampullæ*; moreover, the florid character of blood, which is frequent in tuberculisation, is exceptional in the other case; here the blood is oftener black—it seems that it is diluted and dissolved in a certain quantity of water, and the liquid which results from this solution, preserves a marked fluidity: sometimes the blood—altered and modified by its contact with the matters contained in the bronchi—has very much the aspect of the washing of flesh.

Such are the differential signs of these two maladies in their initial periods: they are here of the most decided utility in aiding diagnosis. Unfortunately, if one had not followed the patient, or can only obtain incomplete accounts of the early period, the criterion fails and the

embarrasment is redoubled. It was this which caused Stokes to say, many years since, that the diagnosis relatively easy for that physician who has observed the entire evolution of accidents, becomes almost impossible for that one who does not observe the patient until the moment when he has already cavities in the lung. I have myself observed for the past seven or eight years, a woman who has now passed her fortieth year, and who inherits from her father a chronic bronchitis; I have demonstrated in her those phenomena pointed out to you; I have seen gradually succeed to the signs of a chronic bronchitis and emphysema, the physical signs of a sacciform bronchectasie, with multiple *ampullæ* occupying the two lungs; thanks to the precise knowledge of the anterior phases, I experience no hesitation in my diagnosis—I am perfectly sure that tubercles are out of the question, and that I only have to do with dilatations of the bronchi: but I tell you in all sincerity, that if I saw this person to-day for the first time, I would squarely admit tuberculous caverus. One of the bronchial *ampullæ* is located immediately beneath the the right clavicle, and the patient always having been of a thin, wretched aspect, how could I escape error? The mistake is inevitable.

As to the diagnostic signs drawn from the general state, they are not furnished by observation pure and simple of this state; they result much rather from the comparison of it with the age of the patient. Observe the basis and the manner of estimation.

Tuberculous ulceration of the lung and dilatation of the bronchi, have alike the same slow progress; but this slowness in its progression is far from being the same in the two conditions. Whilst for chronic phthisis, a duration of four or five years is really exceptionable, (the researches of Bayle and Louis prove that, in the working

classes, the mean duration of this disease is one year), it is by ten, fifteen, twenty years and more, that the march of bronchectasie is to be measured, and this, as well for that which develops itself in some weeks' time, following on hooping-cough or capillary bronchitis, as for that gradually produced under the influence of emphysema and bronchial catarrh. Furthermore, despite the gravity of the pulmonary lesions characterizing it, the bronchectasie is compatible during the greater part of its duration, with a state of general comfort. The nutrition is good; there is neither vomiting nor diarrhœa; no fever in the evening, no night-sweats; the menstruation is regular, and the patient can go thus for years, without any notable emaciation—without anything incommoding him but the cough, a litttle wheezing and the necessity of emptying his bronchi every morning on awakening. It is not thus, as you know, in tubercular phthisis, which, from its first blighting impress, rapidly marks the organism. If then a patient presents the signs of pulmonary caverns without the grave disorders of nutrition, and if this state already dates back many years, there is a strong probability, especially if the case is in one from the poorer classes, that the affection appertains to bronchectasie, and not to tuberculisation. Thus understood, the condition of the general health acquires great diagnostic value.

I recall the case of a woman I saw in the Beaujon hospital; this woman, who was forty-five years of age, presented on the right side, signs of bronchial catarrh and emphysema; on the left she carried two caverns, the largest at the base of the lung, the other at the summit. Despite this, the health of this person was really florid; although—note the fact—she had been subject, for a long time, to the spitting up of black blood, which recurred nearly every six weeks. A contrast—the most striking—existed here between the local lesions and the general

state. Taking for my basis the contrast, and the history of the patient, which dated the beginning of the symptoms at least ten years back, I made the diagnosis, dilatation of the bronchi, and shortly thereafter, a pneumonia permitted me to verify the diagnosis, by an autopsy.

There are two circumstances, however, in which the general state can render no aid to diagnosis. When the bronchectasic is very ancient, or when it from the beginning produces a very abundant expectoration, and the nutrition gives way, under the influence of this incessantly recurring loss; we see then, an emaciation, to appear, a cachectic marasmus, which is the ordinary consequence of every abnormally excessive secretion, and if insufficient hæmatosis is still further added to this deterioration of the organism, the general condition and the external appearance of the patient, do not differ much from those which characterise tubercular phthisis in its last period. It is by this mode, that bronchial dilatation can kill of itself, without any intercurrent complication; this result, however, is very rare.

Another circumstance I have said, takes away from the general health of the patient all diagnostic signification, it is the cöexistence of bronchectasie and tubercles. Then the evolution of these last products follows its habitual march, phthisis with its whole assembly of phenomena, comes in at an early hour, and dominates the situation, the cavities discovered in the lungs are naturally accounted of tuberculous origin, the diagnosis is just, but incomplete, and the bronchial dilatation ignored, or rather the attention having been turned away in a manner, one does not come to suspect its existence. This is precisely the conclusion I have arrived at, in the case of our man in the ward St. Charles, and for the reasons which I shall adduce, I think him affected

simultaneously with tubercles and dilatations of the bronchi.

That he may be tuberculous, I think, cannot be a matter of doubt. Without bronchial catarrh previously, the accidents arose three years ago by a dry hacking cough, which preserved, for a long time, the character of the tuberculous cough, the hæmoptyses have been florid and not persistent beyond the sixth month of the malady. Hardly attacked, this man commenced to emaciate and lose his strength; in the course of the second year, a chronic pleurisy of the right side retained him in the Pitie hospital three months; he left it, and after an amelioration of some weeks, he observes his limbs to become infiltrated, and falls gradually into the profound marasmus which you have here exhibited to-day; and nevertheless, it is only three years that he has been sick. For all these reasons, I hold this individual to be tuberculous, he presents no family antecedents it is true, either in a direct or collateral line, but on the other side, however, he offers us a perfect type of those clubbed-fingers and pendent nails, which are known under the name of the hippocratic digits. Among the numerous physical signs which we observe in the patient, there are some which I do not hesitate to attribute to tubercles in process of softening; they are, the moderate dullness in the right supra and infra spinous fossæ, dullness in the subclavicular region of the same side, bullæ-like râles, commingled with the souffle which extend into the same point, and the humid cracklings of the infra spinous fossæ. For this last phenomenon particularly, I do not know any other condition which can give it origin.

This much laid down, I hesitate to attribute solely to tuberculisation, the other lesions, which the right lung of this man presents. I find, to justify my hesitation, presumptions aside, a positive reason remaining. It is

not very rare to encounter some tubercles at the summit of one lung, whilst the other organ is perfectly sound; but here, it is necessary to admit a general tuberculous softening, with caverns on the right, without any lesion on the left; this is still more difficult. On the other hand, the sputa does not present the charaeteristics of the expectoration which comes from tuberculous caverns: they unite in a mass under the form of a greenish vegetable soup, homogeneous, without mucous admixture, and the mode of expectoration is more significant still; it is especially abundant of a morning, so that at this time, the patient casts up pus in such a quantity that he rather vomits than spits, after which he for some hours finds himself in a less painful condition; if you will permit me a trivial expression, which expresses faithfully this important symptom, I will tell you, that every morning this man is obliged to empty his chest, after which he respires more at his ease. The characteristics of the matter usually cast up are strange for tubercular phthisis. The unilateral seat of the lesions, the character of the expectoration; such are the presumptions which induce me to think that there is something else than tubercles in this individual. The positive reason which fixes my judgment, is the following:

The percussion denotes a complete impermeability of the lung, and since the dulness is the same around the caverns as at other points, it follows that the tissue which environs the cavities, has undergone itself such a condensation, as to permit no longer any air to penetrate it. Auscultation confirms and complete these evidences, by the bronchial souffle, and the broncoophony disseminated throughout the whole extent of the parenchyma, especially in the interval of the abnormal cavities hollowed out of it, it shows without contradiction, that this condensation is itself diffuse and general. Very well! it

is this mortification of the lung, which according to my view, opens up the diagnosis to this side path, of which I spoke a while ago, it is this which demonstrates to me, the existence of bronchial dilatations.

This generalized induration, is uot due to a tuberculous infiltration; it is impossible to admit that tubercles, even to the maximum of confluence could destroy the permeability of the lung to the degree of determining an absolute dullness, a total loss of elasticity beneath the finger, throughout the whole height of the thoracic eavity; at least I have never seen the like, and I cannot abide by this interpretation.

On the other side, the diffuseness of the lesion, does not permit the ascription of it, to chronic pneumonia, and as there exists no pleural effusion for a further observation of the situation and augmentation of the chances of error, I think, everything considered, that we have before our eyes, an example of a very rare lesion, which Corrigan has pointed out under the name of Cirrhosis of the lung. This alteration with its slow progress and with its tendency to invasion, consists essentially in an exaggerated growth of the connective tissue, which enters into the composition of the pulmonary parenchyma; the increase of the tissue results principally, if not exclusively, from the production of new elements, engendered by the normal elements; it is then, a hyperplasia rather than an hypertrophy, and the name proliferation given to this formative work, is thus fully justified. This proliferation, which we find with the same characteristics in the liver, in the spleen, in the kidneys, in all the glandular organs and in those of innervation, has three constant effects upon the viscus which it occupies: an induration, a rigidity of tissue, and hence the name of sclerosis given to the lesion in its entirety,—an obstruction greater or less to the capillary

circulation, because of the compression and disappearance of a certain numbar of the vessels of the plexus,—finally, the effacement, the choking, if I might dare to say so, of the normal functional elements beneath the masses of connective tissue of new formation. It is the nervous cells which are compromised in the nervous centres, it is the tubes in the nerves, the glandular molecules in the glands, and in the lung, it is the alveoli which are compromised even to the effacement and impermeability of the vesicles.

Provided with this knowledge, which is sufficient to enable you to comprehend this morbid process in its entirety, suppose such a lesion in a lung, suppose a diffuse sclerosis of the whole parenchyma, comprising the periphery of the caverns, what would be the appreciable result? Precisely those which you can establish in our patient; a general dullness in proportion to the degree of alteration, an augmentation of the vocal vibrations in view of the condensation of the tissue which transmits them, and for the same reason, the bronchial souffle and the bronchophony in all the points sclerosed.

Now, the pulmonary sclerosis, the *cirrhosis pulmonum*, as Corrigan calls it, presents itself almost constantly, I think that one can even leave out *almost*, with dilatation of the bronchi; one ought to conclude from the bronchectasic the existence of sclerosis, but mark you, from the sclerosis we can conclude the dilatation. It is thus I have done; it is because I find in our man reasons sufficient to believe in the existence of a hyperplasia of the connective tissue of the lung, that I admit the ampullary bronchial dilatations, with tubercles undergoing softening at the summit. As to the question whether all the cavities are bronchial, or whether some only are of this origin, the other being tuberculous, this is a point, which I cannot indeed determine with accuracy; however, the

cachectic state of the patient leads me to believe that the tubercles ought to be in certain points, already advanced in their evolution. Corrigan thinks that sclerosis is the necessary antecedent to dilatation of the bronchi, he attributes to the retraction of the connective tissue the gradual augmentation of calibre of the air-passages. This proposition is very absolute; no doubt but that when sclerosis exists, it concurs most powerfully in the formation of bronchectasie, but as this last shows itself in the absence of the first mentioned lesion, it is very certain that it is producible by another mechanism. This is especially true in the general bronchectasie, which coincides more surely than any other, with scleral induration.

Rokitansky has particularly insisted upon this point, and while for the partial dilatation he attributes the preponderating pathogenetic influence to the modified pulmonary parenchyma, he attributes the general dilatation to the long continued action of chronic bronchitis, to the shocks of coughing and to the settling of the bronchial secretions in the bronchial tree.* Stokes also recognized the fact, that the prolonged irritation of catarrh has as its result the modification of the properties of the tissues of the bronchi, and in diminishing their normal resistance; but he regards the paralysis and atrophy of the bronchial muscular tissue as the first of these modifications, as the principal condition of every passive dilatation of the aerial canals; it is an opinion which has been adopted by Lebert and Bamberger, and one which I do not hesitate to range myself beside, for those cases where the bronchectasie succeeds a chronic bronchitis.† For the rest, it is impossible to be exclusive in such a case;

* Rokitansky: Lehbuch du Pathologischeu Anatomie. Wien, 1861.
† Stokes: Lou. cit. Lebert: Handbuch der Praktichen Medicini. Fabingin, 1863.

when, as in our man, the dilatation of the bronchi coëxists with the pulmonary sclerosis, without anterior bronchial catarrh, it were better to attribute the bronchectasie to the lesion of the lung, but in the much more numerous cases, where the catarrh exists, it is not right to invoke a unique pathological condition, when many causes are in play, all concurring to the same effect; the pulmonary lesions, the modifications undergone by the bronchial tissues under the influence of inflammation, the mechanical efforts at coughing, the settling of the secreted liquids, all act at the time to bring about a dilatation of the air conduits. This interpretation, which I hold for certainly true, is that of my learned friend, Professor Lebert; it has been also defended by Biermer, in a work in every respect to be recommended.*

Sometimes another condition still comes in to add itself to the already numerous causes of bronchial dilatation; it is the retraction of the false membranes of the pleura, which act upon the bronchi in the same manner as the interstitial sclerosis of the lung, but, however, with less force. It is very probable that these two conditions are realized in the patient whom we have studied, since we find in him pleural friction-sounds plainly manifest.

You can now, without any hesitation, seize upon the true cause of the œdema of the inferior members in this particular case. Despite the extent of the pulmonary lesions, the heart is intact; no pathogenetic influence can be attributed to it: on the other side the femoral veins are free—there is no sign of obliteration of the vena cava; finally, a hydropsy purely purely cachectic, does not generally present a localization so limited or persistent, and it is clear that the trouble of the pulmon-

* Lebert, loe. cit. Biermer, Lav. Theorie und Anatomie der Bronchiener writerseng, (Virchow's Archiev, XIX, 1960.)

ary circulation, resulting from the sclerosis, is the sole condition of the infiltration of the limbs: it is the same mechanism as that for ascites produced by cirrhosis of the liver. In analogous cases, and when an attentive examination has demonstrated the absence of the ordinary causes of the œdema of the inferior members, this dropsy which completes the clinical tableau of pulmonary sclerosis, can put us in the way of a diagnosis, and becomes the indirect sign of this lesion.

One word yet before concluding. The microscopic characters of sclerosis, the mechanism of its formation, the remarkable effects which it produces upon the capillary circulation and the functional activity of the organ which it invades—all these revelations are of recent date, the names even which the lesion bears are of new creation; but the alteration had been seen before this, and pointed out by the qualifications which designated the grosser exterior characters. Lænnec has reported one case in which the bronchial dilatation coïncided with a complete transformation of the lung into a tissue which he compared to fibro-cartilage;* this is evidently the first example of bronchectasie with interstitial sclerosis. My colleague and friend, Bornutz, has observed an analogous fact: the bronchial dilatation was limited to the right lung, and the tissue presented to the naked eye a transformation which cannot be better designated than by the epithet fibrous.†

A point yet remains to be cleared up, which is the following: why the tuberculization of the summit of the right lung coincides in this man with a general sclerosis of the organ, which has in its turn, produced the bronchectasie with its multiple ampullæ? Why this coëxist-

* Lænnec: Traité de Auscultation, t. I., 1826.

† Bulletin de la Soc. Med. d'obs.—This observation of M. Bernutz, has been related in the interesting work of my colleague, Gombault. De la dilatation des bronchis. these de Paris, 1858.

ence of two alterations which are not ordinarily encountered together? This question is insoluble to-day, and it is best to confess our ignorance regarding it. The anatomical history of sclerosis is complete, but its nosological and clinical history is scarcely roughly chalked out yet, and it is not surprising that upon such ground we should run afoul of more than one unknown thing. The fact I have analysed is one stake the more, and in this case it can have no further bearing.

Four weeks after the preceding lecture, the patient succumbed to the progressing marasmus without any new phenomena, and without any modification of the results of auscultation and percussion.

The microscopic examination confirmed in all essential parts, the diagnosis which had been made. The left lung was sound. The right lung, indurated, resistant under the finger, presented a type of general sclerosis; there was the compact tissue which had inspired Lænnec with the comparison with fibro-cartilage and caused Corrigan to denominate it cirrhosis. There were at the same time bronchial dilatations and tubercles, but these last were less numerous than I had supposed; they were entirely limited to the summit of which they occupied principally the posterior part; most of them presented themselves in what is called the crude state—a few of them only were softened. As to the abnormal cavities, contrary to my presumption, none of them were due to tubercular softening; all were the result of the bronchectasial ampullæ; the largest was seated on a level with the mammary region. For the heighth of three finger breadths, the inferior lobe was united to the costal wall by old false membranes; but the adhesions were so relaxed as to still permit the rythmical play of the organ.

The diagnosis failed but upon one point: I had thought the quantity of tubercles much more considera-

ble; it was to these products that I had attributed the divers bruits of the superior lobe, whilst in reality, among all the stethoscopic signs established during life, the humid cracklings of the supra spinous fossa were the only ones of tuberculous origin. This defect in appreciation of the proportional relations is, I think, in truth, but of slight importance.

Our able micrographer, M. Cornil, whom I am pleased to thank for the kindness with which he has rendered me his valuable assistance repeatedly, confirmed in the lung the triple lesion which the naked eye recognized. He was also himself struck with the small number of tubercular elements; as for the interstitial hyperplasia of the connective tissue, it was general, and had acquired, especially at a level with the bronchial cavities, a remarkable development.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, March 11, 1870.

Instead of giving, as usual, an account of some surgical or medical question, I intend to furnish you with an exact and complete description of the manner in which examinations are carried on at the Paris Faculty; the time required for obtaining the D. M. P.; the cost of same, &c., &c., These, I consider, must be useful items to many, and especially to those of the profession who come abroad. The subject has suggested itself to me, because of the frequent questions which are asked by many of the American physicians over here, forming or finishing their medical education. Let us begin at the beginning, and suppose a young gentleman coming to France for the purpose of obtaining his degrees from the

Paris Faculty Before being able to begin his studies and become inscribed as "student of medicine," he must deposit at the secretary's office a duplicate of his nativity papers, and a certificate of good morals; these remain on file at the faculty and constitute the student's brief, or *dossier*. He must, moreover, be *Bachelier és lettres* and *Bachelier és sciences restreint*, without which he cannot begin.* To the foreigners, who have passed these degrees in America, an equivalent is always allowed by the *sorbonne*, upon paying the just dues of those diplomas—100 francs for the first, 50 francs for the second. This matter arranged, the candidate can take out his first "inscription." Namely, 16 inscriptions, one taken out every three months; price of each inscription 30 francs; total 480 francs, are necessary before the student can present himself for the doctorat. Four years must consequently elapse, provided all goes well, before the final trial can be begun. Let us see how these four years are spent; and for this purpose I shall take as an example a student who does not aim at either becoming *interne* nor even *externe des Hopitaux*, but simply one who desires to get through as fast as possible.

The examinations which the student is called upon to undergo during these first four years of his study are one at the end of each of the first three years: they are called respectively, *first*, *second*, *third* "*examen de fin d'année.*" The *first* examination is on physics, chemistry and natural history—considered in their application to medicine; on osteology, arthrology, myology, and the prolegomena of physiology; the *second*, on anatomy and physiology complete; the *third* on internal and external pathology. The price of each of these examinations is 30 francs; all are public. The board of examiners is composed of one

* Six months grace is accorded for the latter diploma, but the third inscription cannot be obtained without it.

professor (president of the board) and two fellow professors, or *agrégés*. The examination lasts but 30 minutes for each candidate. The result is placarded in the university court, where everybody rushes to read his fate. The points given are, "extremely satisfied," "very satisfied," "satisfied," "passable;" the latter mark passes like the first. But a strict register is kept of the marks obtained at each examination, so that these may be taken into account for the Doctorat. Take for instance two students, both presenting themselves for one of the Doctorat examinations, and both having only answered tolerably; now, if one has a good *dossier*—i. e., has always had a very good note in his "*fin d'année*," &c., and the other a bad one, the probability is that the first will be accepted (with a modest "passable") and the second refused. The fourth year imposes no examinations. The student is at liberty to follow such clinical or other lectures as he may chose in order to prepare himself for the Doctorat. To follow lectures is never obligatory; nor are cards of entrance requisite; whether the student takes private lessons, studies his books, follows the professors, or does neither, is no body's business as long as he answers well at his examinations and proves himself capable. This is one reason why some professors lecture to empty benches; others are hissed, and but few heard. The only duties imposed upon him are dissection and the hospital.

After eight "inscriptions" have been taken out—that is to say, two years of study completed, and the *premier* and *deuxième fin d'année* satisfactorily passed—the student is obliged to serve a two years *stage* in the hospital. To do this, he can choose any of the hospital surgeons or physicians which he may like. He may remain three, six, twelve months, or even the whole two years with the same medical officer if he desires; but, as it is more prof-

itable to follow different men and different hospitals, students generally manage so as to pass half of their time in surgery, half in medicine.

The hospital duties are controlled by a register, kept at each hospital, into which the student must enter his name every morning before the medical visit begins—say 8 o'clock. By means of this register the faculty knows whether the student has attended the hospital regularly or not; for when, at the end of every three months, he applies for his inscription and cannot bring proof of his regular hospital attendance (his name must appear on the register at least twenty-eight times a month), the inscription is refused.

The hospital attendance of the first two years is not taken into account, and is not obligatory—though, of course, everybody avails himself of the opportunity. The student of the first two years is called "*bènèvole;* of the two last years, "*stagiaire.*"

As soon as sixteen "inscriptions" have been procured—for which, as already stated, four years must elapse—the examination of the Doctorat, five in number, besides the Thesis, can be begun. The five examinations cost ninety francs each; the one for the Thesis cost 240 francs, including pay for diploma. The ninety francs are lost if refused at the examination. Whenever the student is ready for examination, he can go to the secretary's office, pay the required sum of ninety francs, and be put upon the list of candidates. The board of examiners for any of the Doctorat examinations, is composed of two professors and one *agrègè.* Only three candidates can be examined by the same board at the same time. The examinations begin about one and last until three o'clock. Generally speaking, they are not as severe as may be supposed. Much, too, depends upon the board; consequently students aim to be put in series with "lenient

professors." Unfortunately for the candidate, it is the secretary who arranges this matter; though the student may refuse to accept a certain board, provided he can give serious reasons for so doing. But if he accepts the board and does not appear for examination on the day fixed, he loses his money—ninety francs.

No one is forced to pass an examination; years may intervene between each of the Doctorat examinations; this concerns no one but the candidate. After having passed one of the Doctorat examinations, the student can go immediately—next day if he likes—and be inscribed for the following. Thus all the examinations can be passed in the course of a couple or three months, provided the candidate feels ready. It could even be done in a shorter period, if it were not that two and sometimes three weeks elapse from the day of being put upon the list as a candidate to the day on which a board meets. If the candidate is refused, he can present himself again in three, six, or twelve months, according to the decision of the board by which he has been refused.

Our faculty is composed of thirty-three professors and twenty-five fellow-professors, or *agrègès*. Any three can be called upon by the secretary, to form a board for any of the Doctorat examinations; though, nearly always, the professors are chosen for the examination of the branches which they lecture on.

The *first Doctorat examination* includes anatomy, histology, physiology and dissection. The candidate must present himself at the *Ecole Pratique* at 8 o'clock in the morning, in order to receive his subject for dissection. If the parts to be dissected require special instruments, these are furnished by the school. The time allowed for dissection is four hours. At 12 o'clock, the parts are taken charge of and carried to the amphitheatre of the faculty, where, at 1 o'clock, the student has to demon-

strate the piece. Between twelve and one o'clock he can breakfast or run home and read up the parts dissected. Generally, a man's appetite is not over good on that day; I remember well mine was not. Perhaps one of the severest of all of the Paris examinations is the first Doctorat. Without a pretty thorough knowledge of anatomy, it is a difficult matter to get through.

The *second*, medicine and surgery, operations on the dead body and apparatus. The student must perform ligatures of arteries—an amputation or a resection; the rest is theoretical.

The *third*, natural history, physics, chemistry and pharmacology. This is the "*bête noire*" of all students; many a difficulty has arisen from it; many a professor hooted and harrassed. The examination is not so very difficult; but to have one's mind taken away from medical studies in order to learn these collateral sciences is anything but pleasant. No one to-day can doubt the importance of these studies, but all must agree that the examination is badly placed. There is a change on foot in regard to this matter, and, if my letter is not too long, I shall refer to the subject further on.

The *fourth*, hygiene, legal medicine, therapeutics aud prescriptions. A report must be written out, according to the legal form, upon some supposed case of poisoning, hanging, child-murder, abortion, &c., &c.

The *fifth*, the practical examination, includes clinical medicine, surgery and obstetrics. It is held at one of the three central Hospitals: the Charité, the Hotel Dieu or the Cliniques. The patients are chosen from among the new comers, those who have entered that morning; and in order to keep the candidate away from the hospitals on that day so that he may not see the newly admitted patients, he must present himself at the faculty in the morning and write a dissertation on some medical, sur-

gical or obstetrical subject. This part of our examinations is a farce: in the first place, the student can put a book into his pocket and copy *ad libitum;* in the second, his scribble is never read. Ten minutes or quarter of an hour is allotted for the examination of each patient; this is done in the presence of the examiners. The diagnosis, prognosis and treatment are afterwards discussed in the lecture room. This examination is very strict and many refusals are given.

The *sixth* examination is on the subject of the Thesis. The thesis must be printed and a hundred copies delivered to the school. The price for printing a thesis may be from two hundred francs and upwards, say four hundred francs for an average work. Before being able to have this important (?) document printed, the MS. must be signed by the professor, whom the candidate has chosen as president of his thesis, in proof that nothing inapplicable is contained therein. It must also be signed by the rector of the Paris Academy; so much for red tape. A last expense of a ten franc piece, for finishing up the ceremony, is asked for by the waiter who supplies us with the doctor's gown. You will be astonished, I am sure, when I tell you that the average number of graduates in Paris is only 300; there were 298 in 1869.

If we now sum up the whole expenses, we find:

1.	The two Bachelor diplomas, : :	150 francs.
2.	Sixteen "inscriptions," at 30 francs, :	480 "
3.	Four years dissection, at 20 " : :	80 "
4.	Three *fin d'anneè* examinations, at 30 f.	90 "
5.	Five doctorat examinations, at 90 f. :	450 "
6.	Examination of thesis, including diploma,	240 "
7.	Average cost of thesis, : : : : :	400 "
8.	Fee for doctor's gown, : : : : : :	10 "
	Total, : : : : : :	1900 francs,

which is equal to $380 in gold. Five years may be looked upon as the average period for finishing; but few get through earlier, many are six and seven years.

To the foreign physician who comes here with an acknowledged diploma,* and who wishes to become a doctor of the Paris faculty, allowances are made for the sixteen inscriptions and the three *fin d'anneè* examinations, upon paying for the same, 570 francs. The foreign diploma, accompanied by a written demand, must first be sent to the minister of public instruction, whence it is forwarded to the Sorbonne, and at last to the medical faculty, which decides as to its value. The foreign doctor is consequently placed upon an equal footing with the four years student, and he need only pass the five Doctorat examinations and the thesis. The Berlin, Vienna or London doctors, all fall under the same head.

There are some foreign physicians, however, who—desirous of practicing in Paris, but too ignorant to stand an examination—by wire-working and ministerial influences, receive "permission" to practice. The position which such men occupy in the eyes of other, can be easily imagined. It is evident that a faculty must judge whether or no a physician is capable, not the Emperor or his ministers.

The changes in the examinations which are now spoken of as about to be made, are these: The three *fin d'anneé* examinations are to be put aside altogether, and the Doctorat alone is to remain. But instead of passing the latter after four years study, as is now the case, one doctorat examination is to be passed at the end of each year; so as to finish in five years, not including the thesis. Moreover, the examination of the collateral sciences, instead of forming the *third* Doctorat, as it does, is to be placed as the *first*, as close as possible to the "Bachelor studies." Such a change will give great satisfaction.

* Of the American diploma, those from Philadelphia are received for sixteen inscriptions; but as to the Western Colleges I am not quite certain. I am under the impression, however, that their diplomas only value twelve inscriptions—equal to three years study.

I shall conclude with a summary account of the *externes* and *internes des Hôpitaux*. In order to be able to enter the *concours* for the *internat*, it is necessary to have been an externe. The competition for the latter is comparatively easy; the student must not be under eighteen nor over twenty-five years old. There are generally some 175 places vacant every year for about 350 applicants. Seven judges, professors of the school or medical officers of the hospitals, form the Board of Examiners. The questions are drawn by lot; a series of ten students is examined, orally, one after the other, upon the same question. The candidate is allowed five minutes for reflection and five minutes to treat his subject. Two such trials are imposed: the first on anatomy and physiology; the second, on elementary pathology or minor surgery. The externat expires after three years of service, unless the externe again enters the list of competitors. The externes of the central hospitals receive no pay; those who take service in the eccentric hospitals receive a franc a day, that is to say, a franc for every signature signed at the hospital in the morning as a proof of their presence. The externes have to see to the application of bandages, blisters, etc. All externes under twenty-eight years old can compete for the *internat;* of these there are generally from forty to forty-five places vacant. The number of competitors varies from two to three hundred. The examinations are carried on very much like those for the *externat*, only the questions are more difficult. The interns receive four hundred francs the first year, five hundred the second, six hundred the third, and seven hundred francs the fourth year. They receive, moreover, four hundred francs a year for their rooms in case they are not lodged at the hospital. Their duty is to inform the surgeon or physician as to the new patients which have entered the hospital, aid in the operations and even

replace the medical officer, in case of absence. Generally speaking, the only real practitioners which the Paris school turns out are those who have been "*Internes des Hopitaux*," a title of which one may be justly proud.

R. Good, M.D.

New York, March, 1870.

This month has added, and perhaps will still add, an additional number of physicians to the craft. The medical schools have all celebrated their commencements and send forth, diploma in hand, their students to begin their battle with the world. It is to be hoped that these disciples of Æsculapius may have taken advantage of the many opportunities for study and improvement which the metropolis offers, and will enter upon their duties with the determination to do good to their fellows, and to elevate and improve our glorious science. As your readers well know, we have in this city, three colleges devoted to medical learning, these, in order of age, are the College of Physicians and Surgeons, the University, and Bellevue College. All of these are in a flourishing condition and have had large classes enrolled upon their lists. The number graduated during this Spring, are respectively: 74, 68 and 140.

A new operation, designed by Dr. T. G. Thomas, Professor of Obstetrics, etc., in the College of Physicians and Surgeons, author of the very excellent treatise on "Diseases of Women," has of late, attracted considerable attention. The purpose of it is to substitute it for the usual operation for Cæsarian section. As the learned professor intends to publish this new proceeding at some length, I will only give a short outline of it.

As above stated, the proceeding is offered as a substitute for the usual Cæsarian operation. Prof. T. pro-

poses to cut through the abdomen, immediately above Poupart's ligament, precisely as is done in the operation for ligation of the common iliac artery, lift the peritoneum aside, cut through the wall of the vagina. At the same time a sound is introduced through the vagina into the uterus, this is pushed toward the incision. The mouth of the womb is then dilated by means of one of Barnes' largest bags. After this has been affected and the os uteri is in the wound the extraction of the fœtus through the opening is easily made.

Dr. Thomas has recently performed this operation upon a woman, in the eighth month of pregnancy, who was dying from pneumonia. He carried out his idea with the greatest ease and rapidity, and was gratified by delivering a living child. The mother survived the shock for about an hour and a half, then died, more from the effects of the disease than from that of the operation. I do not know whether or not the child is living.

The advantages claimed for this innovation is, that it avoids the incision through the peritoneum and the uterus, and may be more rapidly carried out than the old method.

His numerous friends and admirers, in this country, will be gratified to learn that Græfe, the celebrated German ophthalmologist, intends to visit this country, during the coming Spring, in order to restore his health, which has been somewhat enfeebled, in consequence of his arduous duties. It is gratifying to note that, of late, the medical celebrities of Europe have begun to watch with increasing interest the progress of medical learning on this side of the Atlantic, and several have even come here to note this improvement in person. Among these, have been, Spencer Wells, of London; Brown Séquard, of Paris; Knapp of Heidelburg, and Boeck of Christi-

anna. The two latter have even settled here, the former definitely and the latter for some time to come.

Prof. Knapp, the former ophthalmologist to the Heidelburg Hospital, and quondam colaborer with the celebrated Helmboltz, has been living here for some time past, practicing his specialty with the greatest success. He is now surgeon to the New York Ophthalmic and Aural Institute, which is doing excellent service in its particular field. The learned gentleman takes active part in the various medical societies, and assists greatly in raising the standard of medical knowledge.

Prof. Boeck, the originator of the idea of syphilization has also been within our midst for some time past. He is now carrying out some experiments in our great Venereal Hospital on Blackwell's Island.

Several new works of the highest scientific interest will shortly be published. One of these is by Bilroth, the celebrated Viennese surgeon and pathologist. The title of this book will be "The Elements of Pathological Surgery," and will be translated into French, and I presume, English, at an early date.

Another work, but in a different field, is by Robert Barnes—the great London obstetrician and gynæcologist—it treats of obstetric operations and of hæmorrhage. This volume will be revised and enlarged, to suit American practitioners, by Dr. Dawson, assistant to Chair of Obstetrics in College of Physicians and Surgeons, N. Y., etc., etc., one of the editors of the American Obstetrical Journal. This will be published by the Appletons, of this city, in a few days.

Several other works, of not less interest, have lately been and soon will be put upon the market. I will leave the consideration of these to the able reviewer of this Journal and will endeavor to interest your readers with other matters.

The various medical societies of this city, are, I am happy to say, in a very flourishing condition. The meetings are always of the greatest interest and are generally well attended, and the listeners need never go away, without having increased their stock of knowledge. The principal Associations are: the County Medical; the Academy of Medicine; the Pathological Society; the Medical Journal Asssociation, and many others, whose sphere, though less limited, is none the less important.

If Mr. Editor does not object, I propose, in future, to give short sketches of the purposes and doings of these various institutions.

Owing to the strenuous exertions of the Board of Health and the Sanitary officers, the threatened epidemic of small pox, has been checked in its beginning. The slight epidemic of relapsing or famine fever, which but lately excited the interest of the medical fraternity and the fear of the public at large, is also on the decline. In consequence of the comparatively mild winter the health of the city has been very good. That it may long remain so, is the wish of R. C. Brandeis.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

Art. I.—A Practical Treatise on the Diseases of Children. By Alfred Vogel, M.D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated and Edited by H. Raphael, M.D., New York.

This work we welcome, as a valuable addition to the number already published upon this subject. It is comprehensive, well arranged, written concisely and the style is pleasant. Its pages are not, as is the case with many

foreign books, encumbered with the recommendation of numerous remedies never used in this country. The medicines, spoken of, are mostly those in common use, and those which the author can, from his own personal experience, endorse.

The chapter, containing the rules for the examination of children, attracted our attention as we glanced over the work. Many valuable directions are given, which, if followed, will tend to make the examination more thorough, and the diagnosis more certain. The difference between the physical signs, in the adult's chest, and in that of a child, is clearly pointed out. Palpation is regarded as more reliable than auscultation. Percussion is of great value, but in the child must be practiced very lightly, to enable you clearly to distinguish the different notes. The use of the thermometer is discouraged, because of its uncertainty when placed in the axilla, and of its liability to frighten the child. He advises judging of the temperature by the hand placed upon the surface of the body. To judge of a child's temperature, in this way, with any sort of accuracy, would require an amount of experience which few private practitioners could hope to gain. We have repeatedly made the experiment of estimating the temperature by the hand, and then ascertaining it by the thermometer, the difference sometimes being as much as three degrees.

We much prefer using the thermometer, placing the bulb of the instrument in the rectum instead of in the axilla. Young children are seldom frightened by this method, and uncertainty is avoided, because the bulb is entirely surrounded. The seeming indelicacy can be obviated, in a great measure, by using a self-registering instrument, which may be inserted by the mother or nurse, and is afterwards brought to the doctor for inspection.

Some allowance must be made for the greater elevation of temperature in the rectum, as compared with that in the axilla. We found that in 1947 comparisons of the temperature, taken simultaneously in the rectum and in the axilla, the average difference was 1.1° in favor of the rectum. We noticed also that the variation in temperature was frequently indicated several hours sooner in the rectum than in the axilla. The thermometer is of too much value in making a diagnosis to be thus lightly discarded.

The subject of the nursing and care of children next claims attention. When the mother is unable, from some unavoidable cause, to nurse the child, a wet-nurse is advised. Minute direetions are given for the selection of a wet-nurse, and for the dietetic and hygienic treatment while nursing the child. The responsibility of the physician to the parents in making the selection, is urged, but no mention is made of his responsibility to the wet-nurse. We have known several instances, in which constitutional syphilis was communicated to wet-nurses by diseased infants. The communication of disease in either direction can only be avoided by subjecting both parties to a most careful examination. When the mother is unable to nurse the child, and a wet nurse cannot be obtained, fresh cow's milk is advised. The author strongly recommends, as a substitute for woman's milk, Liebig's soup, prepared by adding to fresh cow's milk a small portion of wheat flour, the starch of which is, by means of a little malt meal, converted into dextrine and sugar, and then rendered alkaline by carbonate of potash. This more nearly resembles, in composition, woman's milk, than any other substitute, and is found, upon trial, to agree remarkably well with the children fed upon it.

Diseases are classified according to the region, organ, or system, affected. First are described, in a separate

class, the diseases consequent upon delivery, as asphyxia, atelectasis, trismus, etc. In this class we find the subject of ophthalmic nenatorum well discussed. The necessity of a frequent and thorough cleansing of the eye is insisted upon. The treatment by the application of cold is recommended as the best during the early stages. We can fully endorse this, but, to be successful, the cold must be applied continuously for 24 to 36 hours and with as little moisture as possible. This is best accomplished by placing over each eye a small compress, which has been cooled upon the dry surface of a large lump of ice, a fresh one being substituted every five minutes. This is almost invariably successful, if faithfully carried out, otherwise it does more harm than good. Occasionally it causes a bronchial or nasal catarrh, particularly if much moisture has been applied, or the compresses have overlapped the bridge of the nose. We have sometimes been able to check the disease by the application, during the first five days, of a solution of nitrate of silver, 5 grs. to ℥j.

The diseases of the digestive apparatus are then described, commencing with those of the mouth. In the treatment of dyspepsia, reliance is placed chiefly upon a regulation of the diet, and no mention is made of the use of pepsin, which, in some forms of the disease, we have found to be of great service.

Under the head of diarrhœa, the various kinds of stools are distinguished according to their consistence, color, odor, chemical and microscopic qualities. This is a means of diagnosis, which, from false motives of delicacy, has hitherto been too much neglected. Much knowledge, concerning the degree, seat and character of the inflammation, may thus be gained, which is accessible in no other way.

The author divides intestinal diseases into three classes,

viz: Intestinal catarrh, enteritis folliculosa, and dysentery. To adhere strictly to this classification would exclude a large number of cases, usually embraced under the name entero-colitis, and enteritis folliculosa would be applicable to very few of the cases usually met with in practice. In the great majority of cases the lower pertion of the small intestine, together with the whole or a portion of the colon, is involved in the disease; hence the name entero-colitis. We have had the opportunity of examining, after death 130 children, who died of intestinal disease, either as a primary cause, or as a complication. Of this number, twenty disclosed evidences of a simple catarrhal inflammation; in two, the small intestine alone was involved; in two others, the colon alone; while in 106 the lower portion of the small intestine, with more or less of the colon was implicated. In the earliest stages the solitary glands were found simply swollen and surrounded by a distinct vascular ring. Later in the disease, rupture of the sacs occurred, resulting in the formation of small round ulcers. Peyer's patches were generally found prominent and inflamed, but never infiltrated with foreign material.

In diseases of the larynx, the term croup is applied to those cases, in which an exudation appears either upon or in the inflamed mucous membrane; pseudo-croup is appropriated to catarrhal laryngitis; while the neurotic diseases are included under the classes spasmus glottidis and paralysis glottidis. Croup is further subdivided into three classes, according as the exudation is; first, muco-purulent; second, simply fibrinous, or, third, diphtheritic. In the first class, the mucous-follicles are thought to be the chief seat of the disease; in the second the microscope discloses numerous bands of fibrin, and the exudation is poured out upon the mucous membrane; while in the third, no fibrinous bands are seen, and the

exudation is in the mucous membrane, not upon its surface. In the treatment, all depressing remedies are avoided, reliance being placed chiefly upon the use of the alkaline carbonates, opium being given in sufficient amount to control the cough and dyspnœa, while the air breathed is rendered moist by the use of a steam atomizer. No mention is made of the treatment by the inhalation of substances having a solvent power over the membrane. We have tried successfully lime water and lactic acid and have lately seen highly recommended, the inhalation of liquid pepsin, but have not yet had an opportunity of testing it.

Adopting the theory that croup is a general disease, the exudation being merely a local symptom, the performance of tracheotomy is discouraged as useless. We are surprised that any one, who admits that even twenty-two per cent. of the cases operated upon have been saved, could stand by the bedside and see the terrible agony of his little patient, gasping for breath, and literally choking to death, and still refuse to recommend an operation, which he regards as "unattended by any danger to life." The almost immediate relief from all torture and agony, as depicted on the countenance of the child, when the first full free inspiration is taken through the canula. ought to convince the most sceptical as to the advisability of the operation.

Two varieties of pneumonia, lobar and lobular, are well described. Too mueh stress, however, is laid upon the detection of the crepitant râle. The true crepitant râle, as heard in the adults, we have rarely been able to detect in the young child. In place of it, we have generally heard a peculiar subcrepitant râle, first pointed out to us by Dr. E. T. Janeway, of New York. This râle, heard both in inspiration and expiration has a peculiar metallic character which clearly distinguishes it from the

subcrepitant heard in bronchial catarrh. Attention is called to an error in diagnosis frequently made in percussing children, viz: ascribing to pneumonia the physiological dullness on the right side posteriorly, caused by the liver ascending into the thorax during a forced expiration.

There is a failure to notice the tact, that the prognosis in lobar pneumonia, involving the upper lobes is much more favorable in children than in adults. Pneumonic consolidation at the apex of the lung in adults frequently passes into phthisis; whereas in the child this seldom occurs, the prognosis being really more favorable than where the disease is situated in the lower lobes. Instead of the oil-silk or the jacket poultice usually applied in this country, he recommends warm fomentations by means of the moist girdle. This, we have no doubt, answers well, yet we have generally preferred the oil silk, applied over a flannel undershirt, as affording a sufficient amount of moisture, and as being more uniform, and less liable to be discontinued too soon.

The diseases of the nervous system next receive a full share of attention and will be found well described. We notice that the author is much less cautious than most other writers in the use of opium, having seldom seen any evil effects from it. In the use of calomel, he attains a happy medium between the two classes of extremists. We regret that we are unable to notice the closing chapters, devoted to the consideration of diseases of the genito-urinary system, diseases of the skin and the cachexiæ.

Altogether the work is one which we can recommend to both the student and the practitioner. F. C. W.

I.—Physiology of Man—Secretion—Nutrition Movements. By Austin Flint, Jr., M.D., Professor of Physiology, Bellevue Medical College, etc. New York: D. Appleton & Co. 1869.

II.—Modern Treatment of Acute Internal Inflammations. By W. A. B. Norcom, Edenton, N. C.

III.—Reply to Dr. Lewis A. Sayre's Review of Dr. Ruppaner's Case of Laryngo-Tracheotomy, with an Account of the Great Poisoning Case by Partridges. By A. Ruppaner, M.D. N. York: D. Appleton & Co.

IV.—Twenty-First Annual Announcement of the Woman's Medical College of Pennsylvania, 1870–71.

V.—Valedictory Address to the Graduating Class of the Woman's Medical College of Pennsylvania at the Eighteenth Annual Commencement. By Ann Preston, M.D., Professor of Physiology.

VI.—Ninth Annual Report of the Board of Managers of the Woman's Hospital of Philadelphia. 1870.

VII.—The Third Annual Report of the Midnight Mission, New York, 1870.

VIII.—A Southern School History of the United States of America from the Earliest Discoveries to the Prrsent Time. By W. N. McDonald, A.M., Principal of the Male High School of Louisville, Ky., and J. S. Blackburn, A.M., Principal of the Alexandria High School, Virginia. Baltimore: Geo. Lycett, publishers, 35 Charles street.

I.—This is the third volume of Prof. Flint's Physiology. The two previous volumes have already been brought to the attention of the readers of this Journal. The contents of volume third are briefly as follows: Secretions in general; Serous, Synovial and Sebaceous fluids and

mucus; Mammary Secretion; Excretion; Action of the Skin; Pathological anatomy of the Kidneys; Mechanism of the formation and discharge of Urine; Physiological anatomy of the Liver; Excretory functions of the Liver; Production of sugar in the Liver; The ductless Glands; Nutrition; Animal heat; Movements; General properties of contractile Tissues; Muscular contraction, and passive organs of Locomotion; Voice and Speech.

It is deemed better to simply give an analysis (as has been done) of the contents of this volume, than to do injustice to the author by attempting, in a brief notice like this, to bring to the attention of the public, the subjects which he has discussed. This volume is superior to either of the two which preceded it, and as these were very valuable, it is unquestionable that the student or physician in purchasing a single work on physiology could not obtain in any other an equal amount of valuable and interesting information. Prof. Flint's contributions to physiology, so far, reflect not only credit upon himself, but upon the American medical profession. There remains yet another volume to be issued, that on the nervous system; the whole series will then be complete. It is to be hoped that this will be a worthy capital to the monument which he has so efficiently and creditably erected in honor of a science which happily numbers him among its advocates and expounders. The publishers, the Appletons, have reflected great credit upon themselves for the manner in which this work has been issued.

II.—Those who wish to possess a brief and most efficient treatise on the subject of the modern treatment of inflammation should obtain this publication of Dr. Norcom. It contains, in a short space, most valuable and interesting information. The author is fully *au courant* with

the best authorities on this subject, and presents an analysis of their views, with his own experience, in a highly creditable and pleasing manner.

III.—This pamphlet is intended to show that Dr. Ruppaner attended two cases with Dr. Sayre and that in the several reports of these cases Dr. Sayre gave to Dr. Ruppaner no credit whatever for his connection with them. As the circumstances are detailed by Dr. Ruppaner, Dr. Sayre is placed (without a full explanation) in a very injurious position before the medical public. [NOTE.—The names being reversed the text here given is a verbatim copy of that published in the April Journal. With Campbell, one can only exclaim, "the combat deepens; on ye brave who rush to glory, or—*a grave;* wave, *Doctors!* all thy banners wave! and charge with all thy chivalry," and further add, (in perhaps the only respectable phrase of the pugilistic fraternity) "may the better man win."]

IV.—This announcement contains much matter for information and reflection. The Faculty consists of Professors Ann Preston, M.D., (Physiology and Hygiene); Emeline H. Cleveland, M.D., (Obstetrics and Diseases of Women); Mary J. Scarlet, M.D., (Chemistry and Toxicology); Benj. B. Wilson, M.D., (Surgery); C. H. Thomas, M.D., (Materia Medica and Therapeutics); Henry Hartshorne, M.D., (Hygiene and Diseases of Children); with Lizzie A. Sanders, M.D., (Demonstrator of Anatomy); and Ann Preston, M.D., (Dean). The usual exposition of advantages peculiar to this School is then furnished. Students are also enabled to enjoy the advantages of "opthalmology" in the "Opthalmic Hospital," etc. (Why the first *h* is always omitted in mentioning this specialty is not stated.) They also have at their command an excellent dissecting room "with all needful appliances for effective work" under the supervision of Lizzie A. Sanders, M.D., "Demonstrator." All students being required

to take *two* courses in Practical Anatomy. In Medical Colleges for "men students," (as they are termed in this announcement) one course only is required in Practical Anatomy, but this in this Institution seems to be a labor of love and two courses are therefore required. (Seriously speaking, this requirement should call the blush to the cheeks of all teachers in other Medical Colleges.) Among the interesting operations which it stated, the "lady students" may always have an opportunity of witnessing are those so happily and naturally familiar to lady students from time immemorial, viz: those for ovariotomy, vesico-vaginal fistula and others equally interesting and appropriate for females to examine. In a class of fifty students, there is but one from the Southern States—Dr. Susan J. Taber of High Point, N. C.

V.—As a comic production this is one of the "successes" of the past year; as a scientific paper, it is one of the most lamentable. After the eulogies to be expected for the science of medicine, and for the "lady students" present, these unfortunate and credulous damsels are thus made ludicrous. "Ladies! Society hails your advent into the field of medicine as among the heralds of this higher civilization; and you will prescribe for those who seek your advice, in the *knightly spirit* of your profession. Medical literature and medical feeling, it is all too obvious, need the refining and ennobling influences, that the purity and peculiar endowments of the true woman are calculated to give." After being further instructed as to their "womanhood," and "nicer sensibilities," and "finer humanities" and "freedom," etc., these professional neophytes are dismissed with the uncomfortable assurance that, as innocent lambs, they would "often be led beside still waters, and lie down in green pastures." It is to be hoped that there is for each one of these deluded beings some stalwart young husband who

will rescue her from a life unnatural and repulsive and give her, in exchange for its hard and unfeminine realities, a well appointed kitchen, a comfortable dwelling and a happily filled cradle.

VI.—According to this Report, it seems that a chief part of the object of this Institution has not been realized, viz: the laudable object of training, for the public, female nurses; but one nurse is offered to the public, while four resident students, physicians, etc., are comfortably installed and supported. Frequently this Institution has suffered for want of the means to defray its daily expenses. The Institution, so far as the care of indigent patients forms part of its object, is a most laudable one; but no one can feel surprised that the public have not sufficient confidence to give to it, munificently and adequately, when the resident physician, Dr. Mary J. Scarlett, and assistant physician, Dr. Eudolphia L. Conklin, are women or "lady physicians," and when the diseases of women are treated, not by those confessedly and notoriously experts in their business, but by lady professors, whose names are seen and known only in the ludicrous little pamphlets distributed to create for them a wide but most questionable notoriety.

VII.—By this Report, it seems that this noble work is yearly becoming more efficient and successful. Self-sacrificing men and pure women, (before whom this suspicious and carping world must bow in reverence and praise), have devoted themselves to the redemption and rescue of the unfortunates whom society ruthlessly ruins and then abandons. It is indeed a Christian labor that must command the support and admiration of every one. If there are two pictures which can best, by antithesis, exhibit the light or shadow in woman's life, these are—1st, that in which the pure and christian woman is represented away, at midnight, from the charms and comforts

of a luxurious home, endeavoring by kindness and personal presence in one of these mission rooms, to win back an erring and miserable sister from a life of prostitution and shame; and 2d—the cold and repulsive dissecting-room of a woman's college, in which are to be seen in serge gowns and with bared arms, those who should be the ornaments of the hearth and home, bending, in repulsive and disgusting stoicism, over the decomposing and mangled portions of human remains! Well may the thoughtful exclaim, as did the Prince of Denmark to his imbruted mother: "Look here upon this picture and on this." It is a source of great pleasure to all, that this "midnight mission" is an entire success, and that it reflects as much credit upon the business management and efficiency of its managers, as it does upon the noble philanthropy of all connected with it. It is to be hoped that, wherever fallen woman is found, the prey to a vice, of all the most deplorable in woman, that there will the noble and the true establish a "midnight mission" for her rescue and redemption.

VIII.—While this is not a professional work, it is an advantage to the members of the profession to bring it to their attention. It is prepared with great ability, with strict impartiality, and with a most commendable regard for historic truth. It is not, as would be supposed, a partizan history, but one intended and admirably appropriate for use at the South, as it is a thorough antidote for all of that infamous poison which is instilled into the minds of unsuspicious children, through the medium, of villainous and partizan presses, which, to their shame be it spoken, so many Southern teachers have sustained and practically supported. No one can read this work and deny its strict fairness and truthfulness. The authors are gentlemen by birth and education; they are accomplished and experienced teachers; they have been

thoroughly educated themselves, and know practically what is required in the education of others. Their work is written with remarkable conciseness, force, truthfulness and comprehensiveness. Every one who wishes a really accurate, compact, valuable and most seasonable history of the United States should purchase this work.

E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

Fifteenth Annual Meeting of the Kentucky State Medical Society, held at Bowling Green, April 5th and 6th, 1870.—*First Day—Morning Session.*—Society called to order by the Recording Secretary, and Dr. D. N. Porter called to the Chair.

Members present.—Drs. Bodine, Singleton, Palmer, W. Rogers, C. Rogers, Logan, Craig, Hale, H. Brown, D. N. Porter L. C. Porter, McElroy, Dunlap, McKee, Daily, McRoberts, Breckinridge, Bullock, Satterwhite and Poynter.

The Chair appointed the Committee on Credentials, as follows: Drs. L. C. Porter, Singleton, Dunlap, Satterwhite and Daily.

Application for membership was made by the following gentlemen: J. W. Holland, Louisville; D. N. Robertson, Bremen; Oscar Newland, Hopkinsville; A. G. Quarles, Moscow; M. R. Perry, Russellville; W. J. Byrne, Russellville; R. H. Ditzler, Rockfield; A. C. Wright, Bowling Green; A. G. Drury, Covington; J. G. Hendrick, Rochester; Dolphus Dunn, Boonville.

Referred to Committee on Credentials, who reported favorably, and all were elected members.

Dr. Poynter read sundry amendments to the Constitution and By-Laws, which he offered for adoption: under the rule they lie over until to-morrow.

Dr. H. A. Atchison, sen., Vice President, having arrived, assumed the Chair.

Committee on Arrangements reported, through Dr. L. C. Porter, welcoming the Society to Bowling Green, in a brief address.

Special Committees called:

Dr. Breckinridge, Committee on Registration, reported that, after much effort on the part of the Committee, the bill prepared by said Committee had passed the Senate, but had failed to pass the House by a constitutional majority, but that an increasing hope was entertained of its ultimate success, Committe was continued.

Standing Committees called:

Committee on Publication—Dr. Breckinridge reported. Referred to Finance Committee, who reported the account correct, and the committee discharged.

The Recording Secretary read a communication from the "College of Physicians and Surgeons," Louisville, dated "May 26th, 1869," and signed "R. O. Cowling, Corresponding Secretary," setting forth the endorsement by that Society of the action of the National Medical Association at its session for 1869, "in regard to raising the standard of fees, charged by Medical Colleges" by a vote of "thirty-six to five," and at a subsequent meeting, on being reconsidered, was again passed by a vote of "thirty-seven to twenty."

Much discussion ensued as to what disposition should be made of this communication. Dr. Breckinridge moved to spread it on the minutes; Dr. Palmer offered as a substitute, "that the College of Physicians and Surgeons be notified of its reception," which was lost, and Dr. Breckinridge's resolution adopted.

Adjourned to 2 o'clock.

Eveuing Session—2 o'clock.—Dr. Atchison in the Chair.

Drs. D. W. Yandell, W. B. Concray, L. J. Frazee, E. H. Black and J. A. Ireland arrived on the 12 o'clock train from Louisville.

The following committee of three were appointed to draft resolutions in regard to the recent affliction of President Skillman, viz: Drs. Holland, Palmer and Yandell, who reported resolutions of sympathy, etc., which were ordered to be spread on the minutes and a copy sent to Dr. Skillman.

Dr. Frazee, chairman of Committee on Botanical Garden, made a verbal report.

Dr. Palmer exhibited specimens of some "new remedies," and made remarks in regard to each (chloral hydrate, sulpho-carbolates, etc.,) the merits of which were discussed by Drs. Yandell, Hale, Black, Ireland, and others.

Dr. Coleman Rogers, Committee on "Tubercular Phthisis," read a very interesting and elaborate report, which was referred to the Committee on Publication.

Dr. Satterwhite offered the following resolution, viz: "That this Society fully endorses the action of the *American Medical Association*, at its last meeting on the subject of *medical education*."

Much discussion was elicited, partieipated in by Drs. Yandell, Breckinridge, Palmer and others.

Motion to postone until to-morrow—lost.

Dr. McKee moved previous question, which was sustained. The question being the adoption of Dr. Satterwhite's resolution; ayes and noes were called and the resolution adopted by the following vote:

Ayes—Drs. Craig, Hale, Brown, Dunlap, McKee, Dailey, McRoberts, C. Rogers, Coneray, Frazee, Black, Breckinridge, Bullock, Poynter, Newland, Perry, Ditzler, Satterwhite—18. [Dr. C. Rogers explained his vote by saying he voted "aye" for the purpose of moving a reconsideration].

Noes—Drs. Bodine, Singleton, Palmer, D. N. Porter, W. Rogers, Yandell, Holland, Byrne, Drury, Hendrick, Dunn—11.

Adjourned at 6½ P. M.

Second day, April 6th: Morning session—nine o'clock. Committee on Nominations appointed as follows:

Drs. Breckinridge, Craig, Bullock, McRoberts, Hale, W. Rogers, McKee, McElroy, Dunlap, Frazee, Newland, Coneray, Brown, Black, Drury.

Drs. T. S. Bell, L. P. Yandell, Sr., and Geo. Besier, arrived by morning train.

Amendments, offered yesterday by Dr. Poynter, were again read and unanimously adopted, and five hundred copies of amended Constitution and By-laws ordered to be printed for use of members.

Dr. Bell spoke of the highly satisfactory results from the use of chloral and the sulph. carbolates.

Committee on Nomination reported the following nominations for offices for the ensuing year, viz:

President, Dr. Atchison; Senior Vice-President, Dr. Black; Junior Vice-President, Dr. McKee; Recording Secretary, Dr. Jackson; Corresponding Secretary, Dr. Dailey; Librarian, Dr. D. W. Yandell; Treasurer, Dr. L. B. Todd; Committee on Publication, Drs. Poynter, Frazee and Palmer.

Report adopted and these officers elected.

Dr. Hale, Chairman Committee on "Malarial Fevers," read a succinct and and minute account of the etiology, symptoms and treatment of these maladies, which was referred to Committee on Publication.

Committee on Credentials reported the following applications for membership.:

J. Winlock, C. B. Blackburn, W. D. Helm, E. Linthim and W. E. Hatcher, who were elected members.

By request, Dr. L. P. Yandell, Sr., read a very interesting sketch of the life and character of the late Prof. Benj. W. Dudley, which he was requested to furnish to the Committee on Publication.—Adjourned.

Evening session, 2 *o'clock.*—Dr. Gaillard arrived on noon train. Covington selected as the place of meeting in 1871. Report of Dr. L. B. Todd, Treasurer, read and ordered to be spread on the minutes.

Dr. Coleman Rogers moved a reconsideration of the vote of yesterday, on Dr. Satterwhite's resolution. Dr. N. Porter offered a resolution as a substitute for Dr. C. Rogers' motion: "That in endorsing the action of the American Medical Assoeiation, having reference to the elevation of the medical profession in this country, this Society did not mean to express an opinion as to the question of fees in the medical schools," which Dr. Rogers accepted and withdrew his motion to reconsider.

Drs. Breckinridge, Frazee, Winlock and Satterwhite spoke in opposition. Drs. D. W. Yandell, Porter, L. P. Yandell, Sr., Holland and McElroy favored its adoption. The ayes and noes being called, the resolution was adopted, viz:

Ayes—Drs. Atchison, Bodine, Singleton, Palmer, D. R. Porter, McElroy, Dunlap, W. Rogers, L. C. Porter, C. Rogers, D. W. Yandell, L. P. Yandell, Sr., Bell, Beeler, Holland, Quarles, Wright, Drury, Hendrick, Dunn —20.

Noes—Craig, Hale, Brown, McKee, Daily, McRoberts, Coneray, Frazee, Black, Ireland, Breckinridge, Bullock, Satterwhite, Poynter, Gaillard, Newland, Winlock, Linthicum—18.*

* As the chief action of the American Medical Association upon this subject was in making $120.00 the minimum fee to be charged by medical colleges, the course of this Society in one day supporting this action by a heavy vote and on the next day emasculating this vote by the statement that no reference was intended to the fee question, reminds one most ludicrously of the comic creation of the old widow, by Dickens, who, when asked if she would *adopt* a child, replied yes, provided it was understood that she was not to *support* it.—[Ed.

Dr. Gaillard said, that two years since, at his home in Richmond, Virginia, he had received an official invitation from this body, asking him to remove his medical journal to Louisville, Kentucky; this Society pledging its support to the work. He said that this was the first opportunity which he had ever enjoyed of returning his thanks in person to this Society (as illness prevented his doing so in Lexington, at the last meeting), and he desired that the fact of the tendering of this invitation to him and the return of his thanks for the same be entered upon the records of the Socicty. By a vote of the Society, this was ordered to be done.

Dr. Bell read, by request of the Society, a lengthy and able review of the life and writings of Dr. Benj. W. Dudley, which he was requested to hand to the Committee on Publication.

A vote of thanks was tendered Drs. Yandell and Bell for these papers.

Standing and special committees, and delegates to the National Medical Association, were then appointed, when the Society adjourned, to meet in Covington, first Tuesday in April, 1871.

M. E. Poynter, M.D., Recording Secretary.

Admission of Colored Delegates to the American Medical Association.—Our distant neighbor, the Editor of the Richmond and Louisville Medical Journal, rebukes the other Medical Journals of the country for not having spoken out on the subject of admitting colored delegates to the meeting of the American Medical Association. Dr. Gaillard states his own views to the effect that it would be right to grant such admission, but that it would not be expedient; for that it would cause a disruption of the Association.

We hardly think medical editors are called upon to sound a blast upon the subject. Our publications are not in the position of political organs, and we should avoid the appearauce of dictating to any of our associations. But, as our cotemporary has summoned us to speak, we are quite willing to present our opinion for what it may be worth.

We hold that it would be wrong to refuse the admission of colored delegates to seats in the convention of the American Medical Association, and that what is wrong is inexpedient.

Further, the exclusion advocated by our brother Editor would disqualify, render ineligible as delegate, at least one colored physician who wore the uniform of the United States in the late war of the rebellion. There is one such now practising in the place of the approaching meeting of the Association, who was a Medical Director in the service of the Government which holds its seat in the District of Columbia. We can see no consistency or propriety in imposing a *civil disability* on him, by the votes of those who sustained the integrity of the nation during the last decade. We forbear to make the antithesis.

If the American Medical Association can be rent in twain by such an issue of a past controversy as this, then it is not worth preserving. If the question comes up, we trust that it will be squarely met; and that Union men will show that though they can forgive their enemies, they do not forget their friends.

A matter, however, so fraught with possible consequences of moment, had better be, so far as practicable, quietly ignored. "Let the dead past bury its dead!"—[*Boston Med. and Surg. Jour.*

NOTE.—How a discussion of the propriety of admitting the negro to professional association can be regarded as a political question is beyond comprehension. How this discussion, made by request of those interested, is to be construed into dictation, is beyond comprehension. How the statement that this Journal could, (as other journals had done), remain silent on the question, becomes a rebuke is beyond comprehension. Why a negro physician, who has worn the United States uniform, is in any respect better than one who has not done so, is beyond comprehension. How Southern delegates owe an unquestiouable right to their seats to those who are willing to "forgive their enemies," is beyond comprehension. How excluding the negro from a professional association imposed "a civil disability," upon him, is beyond comprehension. If any one has "sounded a blast," on this occasion, it is unquestionably "our brother editor." Dr. Luther Parks, for he has evidently taken "a horn" and it seems to have been *entirely too large for him.*—[ED. R. and L. M. J.

Dr. Neftel, of New York, treats malignant tumors, organic strictures of the urethra, and indurations generally by electrolysis, according to the suggestions of Cassel, Meyer and others. He says, that this plan of treatment, is never followed by inflammation, suppuration or other disturbances, and that the patient can continue his usual occupation and mode of life.

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Dr. A. Y. P. Garnett, of Washington, has recently excoriated Senator Sumner in a letter published in reply to a disgraceful attack made upon Dr. Garnett by Mr. Sumner in a speech before the American Senate.——The physicians of Nashville, Tenn., have resolved to demand "cash" for their services.——Nestle's Lacteous Farina is said to be the latest and best substitute for mother's milk. It may be bought of H. Astie & Co., 29 Beaver street, New York.——Dr. F. Lente (of Cold Spring, N. Y.) an accomplished physician and writer, has recently advocated a return to the free use of calomel in many diseases; he recommends half drachm doses as a sedative and claims great success in his practice.——Dr. Spencer Wells has published a third series of 100 cases in ovariotomy, and his last results are 77 recoveries and 23 deaths; in his second series there were 72 recoveries and 38 deaths; in his first series, 66 recoveries and 34 deaths. He taps repeatedly, if necessary, before operating.——Ohio has recently passed a fair dissecting law.——The bill for registration of births, deaths, etc., was lost in the Kentucky Legislature; many calling themselves physicians, voted against it.——It seems probable that the negro will be admitted into the American Medical Association. The Committee on Credentials will have the alternative of the negro or the Southern delegates imposed upon them; one or the other; it is impossible to have both. ——Etherized cod-liver oil and the pancreatic emulsion seem to be giving wonderful results in the treatment of phthisis.——The sale of diplomas seems to progress actively in Philadelphia; the culprits have not yet been unearthed.——Elsbery has invented a pocket laryngoscope; it is compact, simple, cheap, efficient and easily worked.——The Zircon light is to be used in lighting the Pneumatic tunnel, under Broadway, N. Y.——Prof. Christopher Johnston has been elected to the Chair made vacant by the resignation of Prof. N. R. Smith, of Baltimore.——The physician who made 160 visits to Bismark's son, received $25.00; he asked $125.00.——The Alumni of the Jefferson Medical College have formed an Association.——The twenty-fourth annual meeting of the As-

sociation of Superintendents of American Insane Asylums will be held at Hartford, Conn., June 15th, 1870. ——Dr. Love, of Albany, Ga., proposes to publish a medical journal. It will be issued probably at Atlanta. ——The Michigan University Faculty have just issued the first number of their Journal.——Dr. J. C. Peters has retired from the N. Y. Med. Gazette; a severe loss. ——The Welsh physicians who watched over "the fasting girl," have been indicted for killing her.——The University of Virginia has nearly 500 students, and deserves even more.——The Asiatic cholera is progressing westwardly; it is now at Wascon, Russia, and "is raging terribly."——Relapsing fever prevails in Edinburgh, without apparent cause.——Boston, at last, is beginning to have its full share of deaths from chloroform. ——There are 46 medical journals published in Paris.—— New York has recently established a Hospital for Diseases of the Nervous System. It is to be hoped that experience gained therein will protect the physicians of America from more mortification; the recent appearance of Dr. W. A. Hammond and Dr. Echeveria before a New York court of justice was lamentable. These two New York authorities could agree in regard to nothing and differed in regard to everything.——The Medical Times and Gazette of London has recently published a most absurd criticism of Americal medical journals. It reminds one of Swift's paper, commencing "who ever reads an American work," and of the British comments upon the American colonies published *before* the surrender of Cornwallis. It praises the New York Medical Journal highly, and the article, strangely enough, appears in that periodical.——Several cases of spontaneous combustion have recently been published.——The Alabama and Georgia State Medical Societies have recently had their annual meeting. Will some of the members send on brief reports for publication.——The Mississippi State Medical Society has just adjourned. It met at Vicksburg. Dr. S. V. D. Hill, of Canton, was elected president; an excellent selection.——Liebreich, of hydrate of chloral notoriety, is a chemist of Berlin.—— Judy thinks doctors' bills a tax upon patience.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Mixed Clinics.—By this term is meant the simultaneous attendance of both male and female medical students upon the clinical lecture delivered at public Institutions. It has been a source of regret, that nothing definite upon this subject could, during the excitement connected with it, be presented to the readers of this Journal; the inability to do this was due to the fact, that nothing official or reliable could be learned in regard to the matter. During the past month, however, there has been received the last "Annual Announcement of the Woman's Medical College of Philadelphia," and there is attached to this, in the form of an Appendix, the official statement of the Faculty of that Institution.

The great majority of respectable persons, male and female, felt outraged upon reading in the newspapers, description of scenes said to have been enacted, during the last session at Philadelphia; nothing, however, very decided was done or published in remonstrance, as there was a lurking hope, that, as usual, the descriptions of the daily press contained more of the sensational than the real; it was hoped that, if the writers therein had not "drawn upon memory for their wit," they certainly (to continue the quotation from Sheridan), had "drawn upon imagination for their facts." The publication of the appendix, mentioned, however, has dispelled the last gleam of hope, that the enormities hitherto perpetrated or hereafter designed, were too highly colored or are too much exaggerated. It is fair to say that nothing published by the penny-a-liners, last Winter, was in any respect an injustice to the students or Faculty of the Woman's College of Philadelphia. In this connection, we may indeed repeat the familiar aphorism, "truth is stranger than

fiction," and acknowledge that the vagaries and fantasies of the females connected with this Institution were in no respect too freely or too severely criticised.

There is perhaps no better way of presenting this subject, than by making a few accurate extracts from the Appendix mentioned, and offering, in connection therewith, brief comments, such as must arise instinctively in the minds of all men and women, ordinarly organized and ordinarily trained. Alluding to the presence of female students (or "lady-students" as they are foolishly termed, for in these days of absurdities, vulgarity and pretension there are no longer any females or women; they are all "ladies"), the Female Faculty thus place themselves on record; "as we would not permit men-students (why not gentlemen-students—Ed.) to enter these clinics at the Woman's Hospital, neither would we be willing—*out of regard to the feelings of men as patients*, if for no other consideration—that our students should attend clinics where men are specially treated." Who does not, when reading this monstrous statement, reiterate the cry of Cicero, *O tempora! O mores!* "Oh! the degeneracy of the times, etc., that the women of the nineteenth century, in a civilized community, should object to being in the presence of men sexually stripped for operation, out of regard to the feelings of *the men* as patients." Indeed some of the jolly tars who were invalids in one of the Philadelphia Hospitals did, as was publicly stated, beseech the surgeons, that they should not be stripped before the "lady-doctors," assembled to witness the necessary operation!!! Humiliating as are these facts, they become actually in consonance with respectability, when compared with what is to come. Here follows a declaration, disgraceful to civilization; "and we maintain that wherever it is proper to introduce women as patients, there also it is but just, and in

accordance with the instincts of the truest womanhood, for women to appear as physicians and students." This sentence, when stripped of its verbal garniture, means that "wherever" women are sexually denuded for surgical operations, that there it is proper, with the male physicians and students assembled, for "women to appear as physicians and students" in their midst. Surely nothing which has ever appeared in the press could be more disgraceful and monstrous than this declaration.

There is, however, even a worse part of this humiliating and unnatural record; "we maintain, in common with all medical men, that science is *impersonal*, and that the high aim of relief to suffering humanity *sanctifies all duties;* and we repel as derogatory to the profession of medicine the assertion, that the physician who has risen to the level of his high calling need be embarrassed in treating general diseases, by the presence of earnest women-students."

When the heart and mind are deeply shocked—stirred to their centre—it is most frequently the case, that nature finds refuge under the conflicting and overwhelming emotions which sweep over her, only in spontaneous, unavoidable silence. Man gazes at Niagara in silence; he sees the Jura, it is said, in silence; in silence he witnesses the Pyramids; the desert; the Geysers; the glaciers; the glassy calm of the lakes; the fury of the ocean. All that appeals to the sublime, the beautiful, the appaling in his nature, whether through the sight the hearing, the touch, or the intellect is incapable of arousing a response which can (as his instincts teach him), be possibly reflected in action or speech. Silence becomes logically the highest eloquence of his nature. How vain it is then, by written words, to convey the impression of the moral shock which all, not unsexed or not unnatural, must sustain, when reading the calm, deliberate, revolt-

ing declaration which these advocates of medical women have placed permanently on record!

This question has become too serious, too gigantic in its relations to the safety, quiet, and sanctity of the domestic hearth to be discussed with the flippant, dangerous jests so familiar to the readers of the public Prints. It is an insidious and increasing danger to all that is valued by men in connection with the privacy, the sanctity, the seclusion, the safety of woman, and those invaluable attributes which cluster around her in her sacred stations as daughter, wife and mother. It is a danger which, if not promptly recognized and absolutely removed, must and will inevitably destroy all—*all* that man loves, values and reverences in woman.

The practice of medicine is unfortunately one of the elements in that repulsive problem termed "woman's rights," which is made so familiar and so offensive by the gentlemanly women and lady-like men who, in societies and in public meettings, in the pulpit and in the press, shriek their anomalous, unnatural, ludicrous and disgraceful claims in the ear of a patient, overwhelmed and disgusted public. The right to study medicine, to witness in common with men the necessary operations on men and women sexually denuded, the right to practice medicine, to dissect the decaying human body, and to traverse the country alone and unattended on saddle and saddle-bags, is now a part of the claims of woman's rights. No one will discuss it—no one can. Its absurdity, monstrousness and folly are too apparent to justify discussion. It may not be practicable to demonstrate the truth of this philosophically. There are many facts admitted, which philosophy, either natural or moral, cannot explain or elucidate; yet these are none the less facts. Philosophy cannot explain why the emanations from the assafœtida gum are nauseous and disgusting to the olfactory senses, while the odors of the

violet and the hyacinthe take all captive with their soft aroma; it can not explain why the music of the grand cathedral organ moves the soul, while that of the hand-organ is welcome only to monkeys and street-boys; it cannot furnish a reason for the fact that gases submitted to the stomach are exhilirating and welcome, while the same gases submitted to the lung are deadly; it can not explain why an act performed by man should be appropriate and natural, while the same act performed by woman becomes disgusting, if not obscene; it can not explain why a man at the dissecting table should appear as a disciple of science, when a woman with decomposing viscera in her hands seems a very ghoul, a vulture or a harpy; it can not unfold to us the reasons why a man loves and venerates, values and cherishes woman, so long as she surrouuds herself with the objects and attributes of a purely feminine taste, while he abhors and detests her when she shrieks for woman's rights—when she unsexes herself and does violence to every instinct that makes her sex lovely and holy. These results are not explicable by the laws of reason, philosophy, or science, or by any method dignified by any name; they are the results of instinct; that overwhelming force which subordinates all other forces in man as it does in all animal nature; the force which guides all animals in the selection of sustenance and food; the force before which man bows in the gratification of his mental, moral and physical nature; the force which impels him to love and protect and worship the feminine woman, while he shrinks instinctively from the shrieking female (or male) advocate of woman's "rights."

If the reflecting, serious, judicious medical men in Philadelphia or elsewhere, do not protest successfully against these "mixed clinics," they must expect to see their colleges deserted by right-minded students. For

young men, properly trained, and bred, while they will not insult woman, even in the garb of a "lady-student," certainly will not be parties to hospital scenes that are offensive aud shocking to every sense of propriety and respectability. They will not and should not go where lecturers are unable to speak freely and fully upon those innumerable and important subjects in medicine which can not be discussed before an audience of both sexes; for while some say that science is "impersonal," etc., it is hoped and believed that no one with the instincts of a gentleman can be induced to say, as a lecturer, to female students what he would not say to them outside of the lecture hall. Under all this progress, etc., of the present age, whatever be lost, at least let there be preserved the natural reserve and instincts of the sexes. If this is not done, if these "mixed clinics" are not abolished, if all the current nonsense in regard to woman as a voter, a lawyer, a parson, and a doctor, is not terminated by men and women of sound sense and reason, woman will soon lose all that man values in her; she will become a man in all, save her sex, and symbolize in a novel but melancholy way the truth of that classic aphorism, "PROPTER UTERUM EST MULIER;" *she is a woman—because she has a womb!* Colleges and Institutions that expect to receive and deserve to receive the support of well-bred students, should be compelled to abolish at once and forever those monstrous anomalies, MIXED CLINICS. E. S. G.

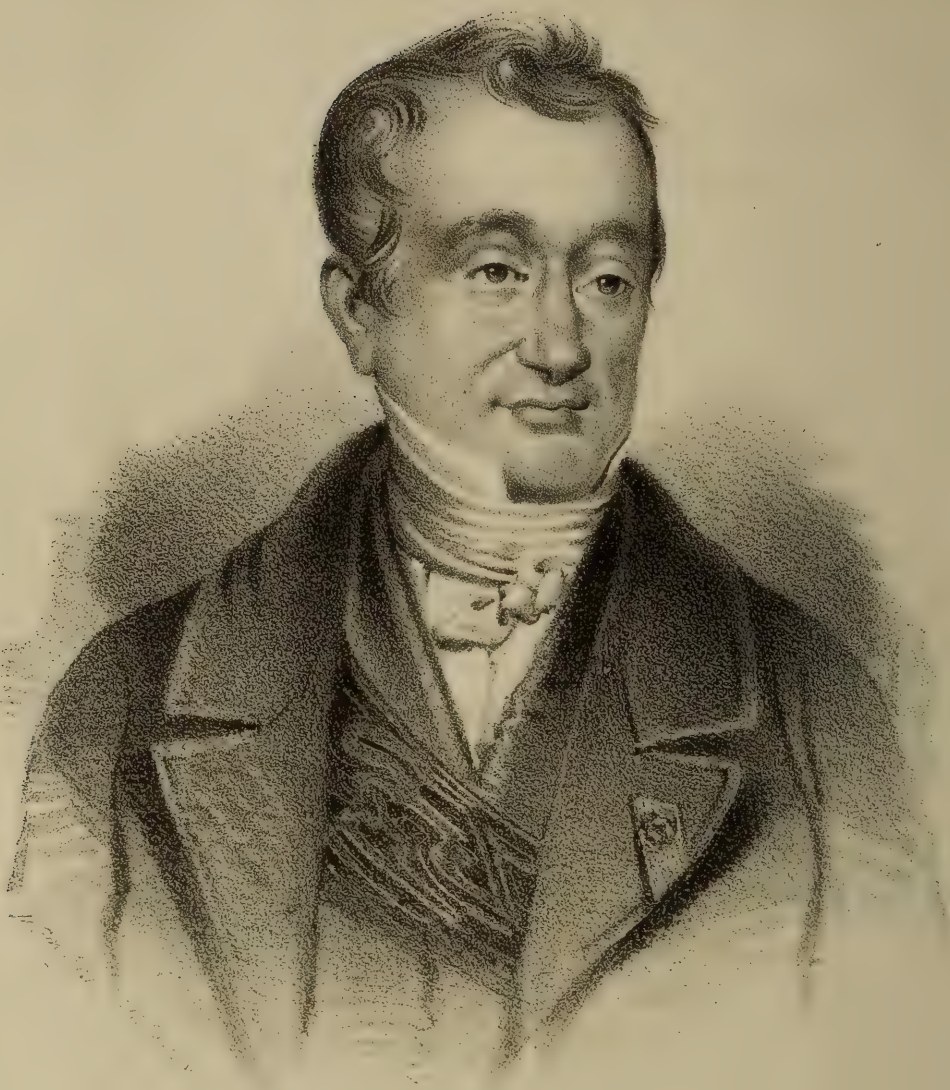
EDITORIAL BREVITIES.—In the January number of this Journal, it was stated, that the editor had "in his possession" the prescription papers of several of the distinguished specialists of Europe, and that these papers bear conspicuously the name and specialty of those who give them. The London Lancet is pleased to term this "a trans-Atlantic libel," and denies that such papers exist or are given. The statement of the Lancet has been copied by the medical press in this country, and it is

hoped that the American medical press will exhibit as much assiduity in publishing this article, as it has done the disreputable notice of the Lancet. The papers mentioned are in the possession of the editor of this Journal now; they have been in his desk for months; they have been seen by many, and are open to the inspection of all. If any one respecting himself could stoop to the publication of certificates, these could be given, but the word of the editor of this Journal, with the holding of the prescription papers ready for inspection, must be sufficient. The London Lancet should surely know, that the statement it has undertaken to make is not reconcilable with a knowledge of the commonest proprieties of life, and it ought further know, that the character of a journal is not to be measured by its age or circulation. It may be an older and a larger, and a better known work than others, but age, size and notoriety have never been the measures of truth, propriety or respectability.———*A Monstrous Absurdity.*—The new Board of Health of New York city consists of two police commissioners; two newspaper editors, with *two physicians.* These editors, as ignorant of hygiene as they are of Sonscrip, are to receive, each, $5000.00 per annum; if they do anything, they must do wrong; if they do nothing, they will be as parasites upon the municipal treasury.———The New York Medical Gazette, for April 23d, contains some flippant and certainly very foolish remarks on the subject of fees in medical colleges. It states that medical college Faculties are actuated by the most sordid and unworthy motives in connection with this subject of fees. It is impossible to believe that any one can misunderstand the action and motives of those who have been parties to late legislation on this matter, though a great deal that is very flippant and foolish has been published and is often published in regard to the motives and actions of college Faculties in connection with the fee question. The gentlemen connected with colleges are not better than their professional brethren in common sense or integrity, but they are certainly not worse. They have as much regard as any for what is right, and true, and just, as the best; not more than this, but not less. It is time then for the press to cease its unworthy gibes; its garbled statements; its unmanly reflections, and its untenable and graceless aspersions. College Faculties do not advocate high fees for sordid motives. They, as

men of common sense, know that the best teachers can only be obtained by ample compensation, and that this is attainable only by proper fees. Reduce the rate of fees in the New York colleges and Philadelphia colleges to $40 00 or $50, and the chairs, now so ably and fruitfully filled, would be vacated by those who would be unwilling to give their time and talents for nothing; and these classic institutions would instantly degenerate and the chairs be occupied by those unknown and unheard of in the arena of science. That a few hundred dollars might be made by buying classes is true; but the character and reputation of those distinguished institutions would be known only in history; over their portals would soon be written the fatal anathema, *Ichabod*, the glory of this house has departed. Competition has driven many colleges to a course which, by their recorded votes, they repudiate and acknowledge to be wrong; and these very schools, by their published records, affirm that the glory and success of medical teaching is to be found in the course unanimously adopted by the practitioners of this country in May, 1869. Surely, where a medical congress, in its wisdom aggregate and superior, adopts a principle and plan of action, it is unworthy of the medical press to ascribe to those who accept such legislation sordid and "tradesmanlike" motives.

BOOKS AND JOURNLAS RECEIVED.

Flint on Diseases of the Heart, by Austin Flint, M.D.; Second Edition. Philadelphia: H. C. Lea, 1870.....Records of Living Officers of the U. S. Navy; by L. R. Hamersly Philadelphia: J. B. Lippincott & Co. 1870.....The Preventive Obstacle; by L. F. E. Bergeret. New York: Turner & Mignard. 1870.....Nomenclature of Diseases. Royal College of Surgeons and Physicians, London; 1869.....Twenty-first Annual Announcement of Woman's Medical College. Philadelphia: 1870.....Dr. Ruppaner's Reply to Dr. Sayre 1870..... Transactions of the Medical Association of Missouri, from December, 1867, to April, 1869. 1870.....Valedictory Address to Class. By T. Aitken Meigs, M.D. Philadelphia: 1870.....Valedictory Address to Class. By R. S. J. Peebles, M.D. Richmond, Va.: 1870 .....Valedictory Address to Class. By Prof. Ann Preston. Philadelphia: 1870. .....Ninth Annual Report of Woman's Hospital, Philadelphia: 1870 ..... Report of Western Lunatic Asylum, Kentucky: 1869.....Third Annual Report of "The Midniight Mssion," New York: 1870 .....Correspondence in regard to a Case of Placenta Prævia. By C. E. Buckinham, M.D. Boston, Mass.: 1870.....Sanitary Legislation in New Orleans. By S. M. Bemiss, M.D.: 1870 .....Report of the Alabama Insane Hospital for 1869.....First Annual Report of the Children's Hospital, Boston: 1870 ..... Report of the Western Lunatic Asylum, Virginia, for 1867-68-69.....Physicians' Prescription Papers and Clinical Records. H. I. Wiesch, New York: 1870... .....The Technologist; Devoted to Engineering, Manufacturing and Building: March, 1870.....Archives of Ophthalmology and Otology. W. Wood & Co.: 1870.....Book of Poems. By Mrs. Alice McClure Griffith.



DUPUYTREN.

THE RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—OBSERVATIONS UPON THE LOSSES OF THE CONFEDERATE ARMIES FROM BATTLE, WOUNDS AND DISEASE, DURING THE AMERICAN CIVIL WAR OF 1861–65, WITH IVESTIGATIONS UPON THE NUMBER AND CHARACTER OF THE DISEASES SUPERVENING UPON GUN-SHOT WOUNDS. By JOSEPH JONES, M.D., Professor of Chemistry in the Medical Department of the University of Louisiana, and Secretary of the Southern Historical Society, New Orleans, La.

Secondary hæmorrhage, as well as pyæmia and hospital gangrene, progressively increased with the progress of the war, and after the great battles of the expiring Confederacy, as that of the Wilderness, it was of daily, and at times, almost hourly occurrence in the hospitals.

The increase of secondary hæmorrhage appeared to be clearly referable to the prolonged use of salt meats, to the short rations, and to the hardships of the Confederate soldiers.

A number of the Confederate surgeons affirmed, that the health of the Confederate troops improved upon short rations; that is, fewer men were entered upon the sick list, when the rations were reduced to one-half, or even to one fourth the usual quantity. The health of the Confederate soldiers, without doubt, improved as the men

became inured to fatigue and exposure, and were transformed into veterans. The destruction of the feeble also, by various diseases, as typhoid fever and pneumonia, also tended to diminish the lists, and number of diseases; and as only the stronger and more hardy were left, the sick list necessarily became smaller.

The fact that typhoid fever is most liable to attack recruits, and as a general rule, affects the individual but once during life, should also be carefully considered in attempting to estimate the progressive diminution of diseases amongst soldiers. The bravery and tenacity with which the Confederate soldiers continued the unequal struggle to the end, until worn out by incessant marching and hunger, they were compelled to surrender to vastly superior numbers, shows that neither their courage, nor their general strength was materially impaired by the short rations.

It is difficult, however, to correctly appreciate the full effects of the scant rations upon the Confederate troops, from the fact that throughout the entire war, they received an immense amount of extra supplies from their friends and relations, and through various State agencies and benevolent institutions; and much extra food was also gathered during foraging.

The great fact, however, was observed at the general hospital at Charlottesville, and in numerous other hospitals throughout the Southern Confederacy, that whilst well marked symptoms of scurvy were not often observed amongst the wounded, and whilst the men from the battlefields generally presented a hardy and strong appearance, at the same time, secondary hæmorrhage and hospital gangrene progressively increased, during the progress of the war; and the former complication of gun-shot wounds, and operations became fearfully prevalent.

The great increase of secondary hæmorrhage appeared to be referable to the prolonged use of salt meat, and to the consequent scorbutic condition of the blood, although the active symptoms of scurvy were not manifested, the increase of pyæmia and hospital gangrene, may in like manner, have been connected, in a measure at least, with the physical and chemical changes of the blood and organs, dependent upon imperfect nutrition and sameness of diet.

The army of General T. J. Jackson (Stonewall) during its active campaign in the valley of Virginia, was remarkably healthy, and the wounded, as I ascertained by an examination of the records of several of the largest hospitals connected with the department commanded by this distinguished soldier, were exempt to a great degree from both erysipelas and hospital gangrene. This immunity was due to several causes, but chiefly to the active habits and good *morale* of his soldiers, to the comparatively abundant supplies of this rich country, and to the large and commodious hospitals established at Staunton and other eligible points in this elevated and healthy region.

This statement is still farther sustained by the following testimony of Professor Hunter McGuire, of Richmond, Va., formerly Medical Director of the Army of the Valley of Virginia:

NEW MARKET, VA., April 15, 1862.

S. P. Moore, Surgeon Generat C. S. A.:

SIR: I have the honor to forward the consolidated reports of sick and wounded, and the return of the medical officers, serving in the Army of the Valley of Virginia, for the month of March, 1862, (Maj.-Gen. Jackson's command.)

Though subjected to long and sometimes forced marches, the health of this army was better during the month of March, than during any other, since its organization. It is a fact well known to regimental surgeons

and commanders, that the numbers reported sick during marches, even when they are long and fatiguing, provided the weather is clear and dry, is less than that which occurs when troops are stationary and subject to the ordinary duties of camp.

Towards the end of the month, recruits and drafted men were added to the regimentt, and the amount of sickness increased, indeed the large proportion of those reported sick belong to the men recently attached to the regiment, who are not yet inured to the hardships of a soldier's life.

I enclose, also, a list of the killed and wounded of this army in the engagements near Winchester, March 23, 1863. It numbers 61 killed and 361 wounded; some of the latter were mortally wounded and have since died, which increases the number of dead, as far as known, to 88, and proportionately reduces the number of wounded. One hundred and fifty-seven of the wounded were removed from the field, the rest fell into the hands of the enemy. It is gratifying to know that our dead were decently buried by the citizens of Winchester, and that our wounded have received every attention from the physicians and ladies of that place.

Very respectfully your ob't serv't,

HUNTER MCGUIRE,
Med. Director, Army of Valley of Virginia.

The following answer to the inquiries of the author, by Dr. Hunter McGuire and Dr. S. C. Merillat, give important information concerning the history of hospital gangrene in the Army of the Valley of Virginia.

RICHMOND, VA., November 29, 1865.

Dr. Joseph Jones:

SIR: I have received your letter of the 13th inst., containing a paper of "inquiries upon hospital gangrene." I regret that my time is so much occupied that I cannot answer your letter at length, and that the capture of my books and papers by the Federals, prevents my sending you the details of some cases. I fear, however, I could add but little to the store of information you have already collected.

The disease never existed as an epidemic in any of the hospitals of the army of which I was Medical Director. Sporadic cases occurred here and there, but they were at

once isolated; and in this way, with attention to cleanliness and ventilation, its spread was prevented. All the cases which came under my own observation, were men who had been exposed to hardships and privations, or to some influences that have diminished the powers of life—as shock or hæmorrhage. I never saw it appear upon an unbroken surface—except in one instance, which I believe to have been the result of accidental inoculation—it was consequent upon a gun-shot wound.

During the campaign of Jackson to Bath and Romney, (January, 1862), the weather was intensely cold, and the sufferings of the troops very severe, snow or rain continually fell and froze as soon as it touched the ground. During the whole trip the thermometer was below the freezing point, and several times about zero. In consequence of this, sick and wounded men in large numbers were sent to the rear, and the hospitals were unavoidably crowded. Several cases of hospital gangrene then occurred, and the wounds of nearly all the patients looked badly, many of them sloughed, and in some the action was phagedenic. I attributed the hospital gangrene and the unhealthy appearance of the wounds generally, to the effects of a foul and impure air, upon soldiers whose vitality had been lowered or depressed by cold. I have no doubt the influence of the cold, in this respect, was increased by the wet weather.

I saw a few cases of well marked hospital gangrene in the patients, who remained in the field infirmaries of my corps after the battle of the Second Manassas. The army had been subjected to long and heavy marches, and for some days, was constantly fighting; some of the engagements were as hotly contested and as bloody as I ever witnessed. Bread and meat were difficult and in many cases, impossible to obtain, and most of us lived upon green corn. The intestinal excretions were made up almost entirely of undigested green corn and water. If caught in the hand, it would scarcely have soiled it. No wheeled vehicles, except cannon and a few ambulances, were permitted to go with the troops, and the hospital wagons did not get up until a day or two after the battles. The wounded suffered terribly: I am sure to a greater degree than I ever saw before or since. In nearly every case the wounds looked badly—many of them sloughed. Pyæmia afterwards carried off hundreds, and hospital gangrene, except in a few instances, was only

prevented by the absence of a confined and poisoned atmosphere.

The wounded were all in tents, or under shelter made of boards, rails, etc., covered sometimes with leaves. During the campaign in the valley of Virginia, in 1862, by Jackson, and in 1864, by Early, I did not see or hear of a case of hospital gangrene. I believe this immunity was due to the use of hospital tents and flies with ground floors. They were always kept open when the weather permitted, and the fœtor from the wounds, and the exhalations from the bodies of the men, etc., were rapidly carried off by the air and earth. I think the latter was an important agent. My experience is decidedly in favor of the use of tents for treating a large number of wounded. I have found them when so situated, less prone to any of the maladies directly or indirectly connected with gangrene, etc. In the early part of the war, circumstances compelled me to use them, and afterwards preferred them. These tents were frequently struck and the ground exposed to the action of the air, and when filth collected around them, as would sometimes happen, despite all we could do, especially during the confusion of a battle, the whole encampment was moved to a new and clean piece of ground.

Although I should have expected it, I do not remember a case in which scurvy was considered a pre-disposing cause. The tendency to it did not seem to increase during the war. Men tolerably well fed became inured to the labors and exposures of the life, and in a large majority of the cases, their condition was improved and they became better able to resist the invasion of this class of diseases.

My experience in the treatment is too limited to justify an opinion in regard to the relative value of nitric acid and the cautery—the first was preferred. If well applied, it was effective and followed by less mental and corporeal shock, which was a matter of no little consideration.

Yours with respect,

HUNTER MCGUIRE.

GENERAL HOSPITAL, STAUNTON, VA., NOV. 5, 1863.

Surgeon Joseph Jones, P. A. C. S.

SIR: Yours of the 11th inst., requesting me to communicate to you the results of my observations in regard to hospital gangrene, and suggesting the best mode of

preparing a record of such cases came to hand, night before last.

It would give me great pleasure to comply with your request, and to contribute my humble mite towards the object you have in view, but fortunately I have never had an opportunity of observing in this hospital, (and I have been connected with it since its establishment, July 19, 1861,) the disease described in the books, as hospital gangrene.

We have had, for upwards of a year past, and have still, a greater or less number of cases, we denominate "sloughing wounds," but this disease appears to have very slight resemblance to the formidable one described in the books as hospital gangrene. It appears to consist in an affection of the cellular tissue, under the skin, around a gun-shot wound, spreading between the muscles, though it never burrows to any great depth. It destroys the glands and veins in its way, but I have never seen it attacking the muscular fibres, and but very seldom the large arteries and nerves. If not checked, which is easily done by creosote and nitric acid, chloride of zinc, chlorate of potassa, etc., it will extend over a large surface.

Scorbutic patients appear to be more liable to it than any others, or at least it is more difficult to manage in scorbutic constitutions. It is not often accompanied with evident constitutional derangement, though the mur. tincture of iron taken internally, greatly accelerates the cure, and I believe would do this without local remedies.

It is but rarely, if ever fatal, and I have seen perfect recoveries of cases denuded over a half square foot of surface. Its course is not often rapid, and I have never seen it display the frightful rapidity, ascribed to hospital gangrene. Another particular in which it differs from that disease, is the absence of pain. I do not believe that it is contagious, though for obvious reasons, we endeavor to prevent the matter from a sloughing wound reaching another wound. I know that it is not infectious, as there has been for the last week in the room next to the one in which I write, one of these wounds, (now doing well, but about six inches by three or four), with four other wounded men, none of whom have been affected by it.

It may be proper for me to add, that the ventilation of the buildings we occupy, is as perfect as high ceilings,

large and numerous windows, wide passages, ventilators near the floor and ceiling, and in wintertime, as warm as air heating can make it. To this may be due the exemption which we have enjoyed from infectious diseases, and the now well ascertained fact, that our patients do better in the buildings than they do in tents.

With sincere wishes that your labors may be crowned with the most satisfactory results, and with the expression of my readiness to assist you, by every means in my power, I am,

Very respectfully, Your obedient servant,
S. C. MERILLAT, Surgeon P. A. C. S.

The general hospitals of Richmond, Virginia, which in the early periods of the war consisted of large "tobacco factories," and other buildings within the limits of the city, received only a portion of the wounded from the first battle of Manassas. In the latter part of 1861, and early months of 1862, wounded were also received from the skirmishes along the lines at Manassas and Centreville, and from the celebrated operations on the peninsula, in which General Magruder, with 11,500 men of all arms, held in check 58,000 Infantry and 100 pieces of artillery, under General McClellan. During this campaign, the small Confederate forces, were kept incessantly moving, and standing guard in mud and water, up to their knees, subjected to a constant and heavy fire of shell and musketry. The Confederate loss at the battle of Williamsburg, May 5, 1862, amounted to killed 520, wounded 1,100; owing to the bad roads and lack of transportation, it was impossible to remove the seriously wounded during the evacuation of Williamsburg on the night after the battle, and they fell into the hands of the enemy.

The general hospitals of Richmond, Virginia, were suddenly filled to overflowing by the casualties of the bloody battles of Seven Pines and of the Chickahominy.

The loss of the Confederates at the battle of Seven Pines, May 31, and June 1, 1862, amounted to 1037 killed

and 2760 wounded. The entire Confederate loss, including the missing, was 4336.

The losses sustained by Longstreet's Division in the battles around Richmond, (Cold Harbor or Gaines' Mill, June 27, and Frazier's Farm, June 30), amounted to—officers killed 63, wounded 231; enlisted men 700 killed; wounded 3198; total killed 763; wounded 3429. The total losses in Longstreet's Division, including the missing, amounted to 4429.

Losses sustained by the Corps of Gen. T. J. Jackson, during the battles of Cold Harbor or Gaines' Mill, June 27, amounted to killed 589; wounded 2671; missing 24; total 3,284.

Losses sustained by Corps of General Jackson at Malvern Hill, July 1; killed 377; wounded 1746; missing 39; total loss, 2,162.

The loss sustained by the Light Division of Major General A. P. Hill, on the 26th, 27th and 30th of June and 1st of July, amounted to killed, 619; wounded 3251; total, 3870.

The returns of Generals Magruder, Holmes, Huger and Stuart, are incomplete. Major General J. Bankhead Magruder estimates his loss at Savage Station, at "some four hundred killed and wounded;" and at the battle of Malvern Hill, at "twenty-nine hundred (2900) killed and wounded, out of a force of twenty-six or twenty-eight thousand under my orders, engaged and under fire." According to his own estimate, General Magruder lost 3,300 killed and wounded, which are not included in the above estimates.

Major General T. A. Holmes reported his losses at—killed 2; wounded 849. The loss of General Huger has been estimated at 1,200, and of General J. E. B. Stuart at 500. General Huger was not so actively engaged as the other commanders, and from certain changes on the

field, the reports of his killed and wounded were probably included in those of the other Generals, already given.

The total losses of the Confederates during the battles around Richmond, amounted to about: In the battle of Seven Pines, and in the commands of Generals Jackson, Longstreet, A. P. Hill, and Holmes, during the subsequent operations, the killed amounted to 3387, and the wounded to 14,706; total killed and wounded 18,093; and if the missing be added, the total loss would reach 18,832.

If to this estimate we add the losses of the commands of Magruder, Huger, and Stuart, allowing one-fifth for the killed and three-fifths for the wounded, we have the following as an approximation to the total loss of the Confederate army during the great battles around Richmond: killed, 4387; wounded 18,706; total killed and wounded, 23,093; total killed, wounded and missing, 23,832.

The forces engaged upon the Confederate side did not in the aggregate exceed seventy thousand men; and of this number more than one-third were killed and wounded during this series of bloody battles.

This large mass of wounded was suddenly, in the heat of summer, thrown upon the hospitals of Richmond. The crowding together in hastily extemporised hospitals, during the intense heats of mid-summer, of this large body of wounded, was attended by the development of hospital gangrene, erysipelas and pyæmia.

It was a common observation with Confederate surgeons, that the wounds from the several battles before Richmond, exhibited a marked tendency to slough, and were more difficult of treatment and were more liable to be followed by pyæmia and erysipelas, than the wounds from other great battles. The terrible sufferings of the Confederate soldiers from hospital gangrene in the

crowded hospitals of Richmond during the intense heat of summer, appear to have been referable not merely to the hygienic condition of the city and hospitals, and to the intense heat, but to the bad condition of the troops, due to those reverses which forced them back upon their capitol, and necessitated continuous marching in damp weather and rain and mud, upon short rations; to the enervating influences of such camp diseases as measles, typhoid and malarial fevers, and to the exhaustion incident upon fighting day and night for six consecutive days, pressing the powerful and brave enemy continuously forward from the very gates of their capitol, by fighting, in succession, five severe battles.

The Confederate troops were not yet transformed into veterans, but were in that state incident to armies recently organized from the agricultural population, when they are enfeebled and decimated by camp diseases, and their vitality depressed by short rations, insufficient clothing, incessant fatigue and continuous excitement. From these causes, gun-shot wounds assumed an unhealthy condition from an early period; secondary hæmorrhage became fearfully prevalent, and amidst the destruction of tissue following the ravages of hospital gangrene, life was frequently lost from the opening of arteries; and cases of profuse suppuration with pyæmia, erysipelas and hospital gangrene filled the hospitals.

The untiring and effective exertions of the Confederate surgeons, ably assisted in their arduous labors, by the generous citizens and noble ladies of Richmond, prevented to a great extent, the ravages of these diseases. The enlargement and perfection of the hospitals in the environs of Richmond, added to the comforts of the wounded, and contributed no little to the marked success of the distinguished medical officers, gathered at the Confederate capitol; and the great hospitals of Rich-

mond, (camp Winder, Chimborazo, camp Jackson, Howard's Grove and others), organized under the eye of Surgeon-General Samuel Preston Moore, enjoyed to the end of the war, an enviable reputation, not only for organization, ventilation and cleanliness, but also for the great success which attended the hygienic measures instituted for the isolation and arrest of the diseases supervening upon gun-shot wounds.

The dependence of pyæmia, hospital gangrene and erysipelas, upon crowding, was clearly perceived, and at an early day it was decided that these diseases were best eradicated by scattering the patients and giving them free ventilation and nutritious food. The contagious nature of hospital gangrene was admitted by many surgeons. The treatment consisted in isolating the patients in tents devoted to the treatment of hospital gangrene; in the free use of stimulants and nutritious died, and of quinine and tincture of the sesqui-chloride of iron, and in the destruction of the poisonous gangrenous matter, and the stimulation of the surrounding parts by strong nitric acid, per sulphate of iron, and sulphate and chloride of zinc. Turpentine and coal-tar dressings were also valued by some surgeons as stimulating applications after the removal of the gangrenous masses.

There was a diversity of opinion amongst the Confederate surgeons, as to the contagiousness of erysipelas. This diversity of opinion was clearly referable, in some cases, to dogmas embraced during education, and to a want of careful and extended observation and investigation of the origin and mode of propagation of the diseases incident to camp life. Many cases, not only in Richmond, but in other parts of the Confederate States, occurred, during the progress of the war, in which erysipelas was clearly referable in its origin and spread, to the crowding together of large numbers of sick and wounded in ill-ventilated hospitals.

Many of the Confederate surgeons appeared to be aware of the dangers attending the indiscriminate use of sponges, dressings and uncleansed bowls, when erysipelas was present in their wards. When wounds were cleansed with sponges or rags, which had been used on erysipelatous patients, it was frequently observed, that the disease appeared, and such propagation appeared to be clearly referable to the transference of contagious matter.

The view maintained by Hippocrates and his followers, that erysipelas was a disease originating from some intestine commotion of the humors, and that the offending matter was thrown off, or eliminated by means of the skin, has been held by a large number of writers, with various modifications and slight additions up to the present time. The French writers, especially, advocate this view, and as a general rule, deny the contagiousness of erysipelas.

The English writers, on the other hand, are almost unanimous in considering the disease as capable of propagating itself by contagion under certain circumstances. Dr. Cullen admitted a species of erysipelas capable of throwing off contagious emanations. He says: "This disease is not commonly contagious, but as it may arise from an acrid matter externally applied, so it is possible that the disease may sometimes be communicated from one person to another. The first well authenticated facts militating against the old notions, and proving the contagious nature of erysipelas, were published by Dr. Wells, in 1798, for, although Sauvages, in his Nosologica Methodica," published thirty years before, admits an "*erysipelas contagiosum*," his views were obscure and his authority doubtful, as the epidemic of Tolouse, in 1715, to which he refers in support of his opinion, appears to have been scarlatina, and not erysipelas. The examples brought together by Dr. Wells, in which this complaint

appeared to be unequivocally propagated by contagion, have been sustained by similar cases, described by Pitcairn, Stevenson, Gibson, Lawrence, Gregory, Elliotson, Arnott, Watson, Rogers, Goodfellow, and other English physicians.

Erysipelas has spread extensively, and for long periods, in the Birmingham, Edinburgh, Glasgow and London hospitals, and it has been frequently necessary to empty and white-wash the wards, and thus rid them of the disease.

Many of the surgeons of the English navy believe in the contagiousness of erysipelas; and it has been debated, whether scrubbing the decks or dry-rubbing them is the best mode of cleansing a ship and preventing the spread of the disease. The old Dreadnought, hospital on the Thames, is said to have been so impregnated with the contagious matter, of erysipelas, that she had ultimately to be broken up and a new vessel substituted.

It can be shown, therefore, that the evidence of contagion in erysipelas, rests upon nearly the same grounds, as in well known contagious diseases, scarlet fever, measles and typhus fever.

We do not at all deny that erysipelas, at times, prevails as an epidemic, and appears to be produced by some general epidemic influence, and that in many cases the disease may be most plausibly accounted for by sudden changes of atmospheric temperature, along with considerable moisture, together with derangement of the bowels, and the effects of particular articles of food, ardent spirits and vicious habits; and at the same time there are facts to show that this disease, at times, is not always contagious. Neither would we be understood as insinuating, that instances of its transmission by contagion are common in private practice, for isolated cases frequently occur in private families, and even in hospitals,

in which no member of the family, and no nurse contracts the disease, as is often the case with typhus fever, typhoid fever, hospital gangrene, pyæmia and Asiatic cholera.

The rapid propagation of erysipelas, both in the sick room and in the wards of the hospital, has been so frequently observed, that no doubt can exist of this disease being under certain circumstances, communicated by emanations, by fomites, or by some palpable virus; the adoption of this proposition, however, does not at all overthrow the belief, which we also hold, that the origin and spread of erysipelas in hospitals and in private families, will depend upon upon the hygienic condition of the wards and rooms, and upon the state of the constitution of the patient.

A scorbutic state of the system favors the origin and spread of erysipelas, and of foul gangrenous ulcers.

Scurvy was quite prevalent in the army of Northern Virginia, (or of the Potomac), during the Spring of 1863, and it was probably due to this condition in a measure, that phagedenic sloughing of wounds appeared to be epidemic; and so general was this complication, that even the smallest prick, in vaccination, would in some instances become frightful phagedenic ulcers, involving the destruction of limbs, and even life itself.

We have elsewhere shown in our treatise upon *spurious vaccination*, that, the abnormal manifestations of the vaccine disease were referable to certain states of the system, and more especially to the scorbutic condition of the blood. And we explained by an extended examination of the conduct of wounds during protracted sieges and in navies, amongst soldiers subsisting upon salt and insufficient food, the accidents in vaccination at Andersonville. In 1863, I examined about two hundred cases of spurious vaccination in the general hospitals of Rich-

mond, Virginia, collected chiefly from General Lee's army, and traced the abnormal manifestation to chiefly secondary syphilis and scurvy.

The statistics of the large hospitals of Richmond, established in the main, the conclusion deduced from an examination of those of the general hospital of Charlottesville.

In Winder hospital (Surgeon A. G. Lane in charge), from its organization, April 1, 1862, to December 1, 1863, the number of patients admitted was 39,997, and the number of deaths during this period, 2,149; giving a ratio of mortality of 5.27 per cent.

In Chimborazo hospital (Surgeon J. B. McCaw in charge); total number admitted, 47,176; deaths, 3,031; aggregate ratio of mortality, 6.62 per cent; gun-shot wounds, 6,740; deaths from gun-shot wounds, 5.74 per cent; typhoid fever cases, 3,474; deaths from typhoid fever 951, ratio of mortality 27.56 per cent; pneumonia, 2,739 cases, deaths 637, ratio of mortality in pneumonia, 20.39 per cent; total all other diseases, 34,223; deaths 1,965; ratio of mortality 3.1 per cent.

During this period 216 cases of erysipelas were treated, with 33 deaths, ratio of mortality 15.2 per cent: these figures by no means represent the total number of cases of erysipelas occurring in the hospital, for the supervening diseases were not entered upon the sick reports during the greater portion of this period. Only twenty-five cases of hospital gangrene appear upon the reports during this period, although a much larger number of cases occurred as sequelæ of wounds.

Pyæmia does not appear upon the record of diseases, though Surgeon S. E. Habersham, in charge of Second Division Chimborazo hospital, testifies that, this fatal scourge of military hospitals, "was by no means of rare occurrence." Dr. Habersham recollects to have seen

during his service in Chimborazo hospital, "what were supposed to have been three recoveries from the condition characterized as pyæmia, although the fact of their having purulent absorption was very questionable. One of the recoveries was in the case of a very strong and healthy man, whose leg had been amputated; the wound was healing very rapidly and the patient doing remarkably well, when he was attacked very suddenly with fever, attended with cold sweats, sore throat, nervous tremors, parched and dry tongue. He complained of pain in the wound and a heavy sensation in the amputated limb, such as he had never felt before. Stimulants with opium were administered. He seemed to get worse, and death seemed inevitable. The next day, a discharge of dark greenish matter was observed escaping from the wound. The stump was opened, and a large flow of the same fœtid pus followed. The wound was injected with a weak solution of the chloride of sodium, and the opium, and whisky continued. A deep sleep which followed the discharge of pus, seemed to revive him very much from which time he gradually recovered."

The following table exhibits the number and mortality of the principal diseases and gun-shot wounds in the hospitals of Virginia, consolidated from all the reports on file in the Surgeon General's office, Richmond, Virginia, at the time of my labors in Richmond, September, 1863.

Cases and Deaths from some of the principal Diseases, Gun-shot Wounds, Pyœmia. Hospital Gangrene and Erysipelas, in the General Hospitals in the Army of the Potomac and Northern Virginia, formerly under the supervision of Surgeon T. H. Williams, Medical Director, including the Confederate Hospitals of Manassas Junction, Front Royal, Warrenton, Warm Springs, Jackson, Leesburg, Culpepper Court House, Orange Court House, Gordonsville, Charlottesville, Charlotte, Danville, Farmville, Liberty, Standersville, Petersbury and Staunton, during a period of fifteen months, Jan. 1862—March, 1863; consolidated from original Reports, on file in Surgeon General's Office, Richmond, Va. By Joseph Jones.

MONTH AND YEAR.		Typhoid Fever.		Common Continued Fev'r		Remittent Fever.		Congestive Fever.		Intermittent Fever.		Measles.		Diarrhœa and Dysen'ry		Pneumonia.		Gun Shot Wounds.		HospitalGangrene.		Pyæmia.		Erysipelas.		Total from all diseases and causes ent'd dur'g month	
		Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.
January,.....	1862	168	70	45	.....	88	2	2	1	40	.....	19	1	136	7	367	127	19	6	...	...	...	...	23	...	4011 †	244
February,	"	168	34	11	.....	49	...	...	...	47	.....	2	...	250	6	220	79	17	1	...	...	...	...	13	...	1508	144
March,	"	89	40	10	.....	26	...	...	...	47	.....	4	...	263	1	187	59	30	...	..	...	...	...	5	...	1302	122
April,*	"	.....	.....	.....	.....	...	...	...	...	.....	.....	...	...	.....	...	.....	...	...	...	...	...	...	...	...	...	.....	.....
May,	"	239	93	83	.....	84	...	...	...	228	.....	453	24	994	26	376	128	157	2	...	...	...	...	32	...	6048	326
June,	"	369	109	125	.....	279	3	2	2	384	.....	593	36	1919	59	310	74	795	26	..	...	...	3	43	...	8811	405
July,	"	693	256	190	.. ...	797	...	1	...	410	.....	183	7	1769	75	177	48	966	24	...	...	...	2	42	...	9446	556
August,	"	852	332	184	.....	1296	29	5	...	1440	.....	167	4	2304	66	231	17	1431	59	...	...	...	2	60	...	17,318	635
September,	"	461	136	196	.....	399	6	3	...	474	....	186	11	1692	65	69	10	956	238	...	...	...	4	21	...	18,055	560
October,	"	407	102	123	.....	198	9	6	...	360	.....	89	5	906	68	68	16	1880	84	...	..	...	1	28	...	8255	378
November,	"	376	156	96	.....	220	2	6	...	988	.....	113	3	1808	57	816	153	840	23	...	...	...	1	65	...	14,121	510
December,	"	159	80	54	.....	114	...	3	...	325	.....	57	...	707	45	581	156	1400	21	...	...	...	...	41	...	8113	451
January,	1863	218	93	106	.....	92	3	...	...	247	.....	50	2	596	40	438	182	511	14	...	...	1	...	62	...	5557	479
February,	"	244	60	144	.....	87	2	1	...	243	.....	40	3	450	49	419	113	345	4	...	...	...	...	44	...	4792	380
March,	"	306	58	129	.....	91	...	2	...	179	.....	60	6	692	23	515	99	449	14	...	...	...	...	52	...	5567	326
Total.....		4749	1619	1496	.....	3820	56	17	3					14,490	587	4774	1261	9796	516	...	...					113,914	5516

* Returns incomplete.

†This number 4011, represents the aggregate number of cases treated in the Hospitals, during this month. The number recovered was 1691.

Cases and Deaths of the principal diseases, Gun-shot Wounds, Pyæmia, Hospital Gangrene and Erysipelas, in the General Hospitals in and around Richmond, Va., September, 1862, to March, 1863, Surgeon E. S. Gaillard, Medical Director of the Hospital Department of Virginia and North Carolina, a period of seven months, consolidated from original Reports in the Office of Surgeon General, Samuel Preston Moore, Richmond, Virginia. By Joseph Jones, M.D., formerly Surgeon P. A. C. S.

MONTH AND YEAR.	Typhoid Fever...		Common Continued Fever.		Remittent Fever.		Congestive Fever		Intermittant Fever		Measles.....		Diarrhœa and Dysentery		Pneumonia.....		Gun-Shot.. ..... Wounds.		Hospital Gangrene.....		Pyæmia.....		Erysipelas		Total of diseases and wounds entered during the month.....	
	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.
September, 1862.	775	240	105	...	299		7	...	601	...	234	...	2501		189	20	.....	...	...	...	*	*	38	*	24,771†	535
October, "	674	127	111	...	261		...	...	759	...	274	...	2419		172	*	773	*	...	...	*	*	38	*	20,199	340
November, "	380	123	83	...	183		4	...	469	...	230	...	1361		457	*	2929	*	...	...	*	*	58	*	14,990	448
December, "	330	*	56	...	150		3	...	240	...	80	...	853		869	*	845	*	...	...	1	*	46	*	15,546	954
January, 1863.	203	77	26	...	48	2	3	...	96	...	88	3	327	19	532	248	632	27	...	2	*	*	38	*	5,583	787
February, "	161	57	61	...	46		1	...	156	...	52	3	652	23	461	91	480	14	...	3	*	*	35	*	7,177	390
March, "	101	99	68	...	54	1	2	3	168	...	76	4	624	32	425	46	224	10	...	1	*	*	18	*	5,484	395
Total	2624	733	510	...	1041	3	20	3	2489		1034	10	8737				8988								93,852	3849

* Return of Deaths incomplete.

†This number 24771, represents the aggregate for September; number received during the month 13,110; number remaining for August, 11,658.

Cases and Deaths of some of the principal diseases; Gun-shot Wounds, Pyæmia, Hospital Gangrene and Erysipelas, in the General Hospitals in Virginia, including those in and around Richmond, Virginia, under the supervision of Surgeon Wm. A. Carrington, Medical Director, classified and consolidated from monthly Reports. By Joseph Jones, M.D., Surgeon P. A. C. S.

MONTH AND YEAR.	Typhoid Fever...		Common Continued Fever.....		Remittent Fever.		Congestive Fever		Intermittent Fever		Measles.....		Diarrhœa and Dysentery.....		Pneumonia.....		Gun-Shot Wounds.....		Hospital Gangrene		Pyæmia.....		Erysipelas.....		Total of all diseases & wounds entered during the month.	
	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.	Cases....	Deaths.
April.....1863	350	110	71	...	248	...	4	...	382	...	80	...	1261	*	951	264	1096	*	*	*	*	*	127	*	‡20,784	694
May..... "	589	134	221	...	350	...	6	...	804	...	132	...	3488	*	767	180	9722	*	*	*	5	*	200	*	32,112	890
June..... "	471	200	418	...	910	...	...	...	1223	...	91	...	4990	*	406	104	2660	*	*	*	11	*	165	*	23,217	692
July..... "	522	65	221	...	458	...	8	...	834	...	48	...	4019	*	220	28	11334	*	*	*	2	6	86	*	32,052	429
Total.....	1932	509	931	...	1966	...	18	...	3143	...	.....	...	.....		2344	576	.....		...	...	.....	...	.....	...	108,165	2705

* Returns incomplete.

‡ This number 20,784, represents the aggregate for April, and includes the number recorded during the month, 10,870, and the number remaining from last report, 9,918.

The statistics of these large hospitals furnish no accurate information as to the relative frequency of hospital gangrene and pyæmia.

In the first table, in which are given the principal diseases of the hospitals connected with the army of the Potomac and Northern Virginia, we observe no record of cases of pyæmia, whilst thirteen deaths were recorded in the mortuary lists, in which the name, rank, regiment, company and State of the deceased soldier was given. This information was obtained only after an examination of this immense number of names and diseases causing death.

In the records of the hospitals, in and around Richmond, we find six deaths due to hospital gangrene, whilst no case of this disease appears upon the sick reports.

This information was in like manner obtained from the mortuary rolls, and not from the face of the sick reports. In the last table we find twenty-two cases of pyæmia, but no deaths; and yet, during the period to which this report relates, a very large proportion of deaths following gun-shot wounds were due to this disease.

From the first table (General Hospitals of the Army of Potomac and Northern Virginia), we gather that, only one case out of 11.6 of all diseases, was due directly to the casualties of war; that is the cases of gun-shot wounds were only 8.59 per cent of the entire number of cases. The mortality from gun-shot wounds was a little less than one-tenth of the entire number of deaths from all causes, or more exactly, 9.35 per cent, or one death from gun-shot wounds in every 10.69 deaths. On the other hand typhoid fever and pneumonia together, caused 2,880 deaths, out of 5,516 deaths from all diseases; that is a little more than one half the deaths from all

causes were due to typhoid fever and pneumonia, or more exactly 52.39 per cent.

The ratio of deaths in 113,914 cases of various diseases and gun-shot wounds, treated during a peried of fifteen months, was 4.85 per cent, or one death in every 20.65 cases.

The ratio of deaths from all causes to the entire number of cases treated in the hospitals in and around Richmond, Virginia, dnring a period of seven months, from September, 1862, to March, 1863, was 4.11 per cent, or one death in 24.37 cases.

The record of the deaths during several months was incomplete. In this table, as in the preceding and succeeding tables, I determined the number of deaths from various diseases from the long mortuary rolls, in which the name of the deceased soldier, together with the disease causing death, was recorded, without any classification as to the disease.

In several of the mortality reports, large portions of these rolls were absent, from the consolidated Medical Director's report. The labor necessary to the classification of the diseases causing several thousand deaths, was very great. More than one-fourth, or 26.31 per cent of the cases of typhoid and common continued fever, terminated fatally, or one death in 3.8 cases; and the deaths from these fevers constituted 24.94 per cent of the deaths from all causes.

During four months, September, 1862, January, February and March, 1863, the ratio of deaths from pneumonia, to the entire number of deaths from all causes, was 19.22 per cent, or one death from this disease in 5.42 deaths from all causes; whilst on the other hand, the cases of pneumonia, during these four months, were only 3.54 per cent of the entire number of cases treated. During these four months, typhoid fever, common con-

tinued fever and pneumonia, caused 41.67 per cent of all the deaths from all causes.

During four months, April, May, June and July, 1863, 180,165 cases were treated in the general hospitals in Virginia, including those in and around Richmond; and the number of deaths was 2,705; the ratio of deaths from all causes, to the entire number of cases treated, was 2.5 per cent, that is, one death in 39.98 cases.

Pneumonia, typhoid fever and common continued fever, together, caused 40.11 per cent of the entire number of deaths from all causes, these diseases included; or one death from these diseases occurred in 2.49 deaths from all causes, whilst on the other hand, the cases of pneumonia, typhoid and common continued fever, constituted only 4.81 per cent of the entire number of cases treated.

ART. II.—ON THE NATURE AND TREATMENT OF OBSTINATE CASES OF CHRONIC INVERSION OF THE UTERUS, SPECIALLY WITH REFERENCE TO PROF. THOMAS' NEW OPERATION AS A SUBSTITUTE FOR AMPUTATION. [Read before the Louisville Obstetrical Society.] By W. H. NEWMAN, M.D., Louisville, Ky.

I believe that in order to arrive at a correct understanding of the nature and treatment of chronic inversion of the uterus, as well as a proper appreciation of the value of Dr. Thomas' new operation as a substitute for amputation, it will be necessary to give more careful attention to the particular condition of the uterus and the uterine appendages in these cases than has yet been bestowed upon them. Sufficient attention has been given to the canal or neck of the uterus, to the external and internal os; but not enough to the size of the uterus, to the condition of the uterine walls, to the size of the uterine cavity, and to the relations of the uterine appendages to this cavity.

I say that sufficient attention has been given to the condition of the neck of the uterus whether in complete or incomplete inversion; yet there is even at the present time some disagreement amongst the writers, as to the true condition of the neck, in the cases that are called complete; some contending that whilst the fundus and body of the uterus may be turned completely inside out; the neck or cervix is never so inverted; but that the folding inwards of the parts, is arrested at or near the internal os uteri. Others again believe that the entire uterus may be "so completely inverted that its mucous surface has become its external one, and its peritoneal surface the internal. The vaginal portion turning upward, forms the highest point of the uterus." With this controversy I may, however, have little to do.

It will be necessary in presenting the subject as I propose, to make a different classification of these cases. I shall classify them as follows: Firstly, those cases in which the uterine tumor felt in the vagina is but little larger than the uterus ought to be were it occupying its normal position in the pelvis, and, secondly, those cases in which the tumor is very perceptibly or even considerably enlarged. This second class may be again divided into cases in which the tumor is more or less soft or spongy, and cases in which it is elastic.

The first class, unquestionably the larger, includes all of the cases in which the uterus has been reduced from its gravid to its non-gravid size. In these cases the involution has been complete and perfect, and the cavity formed within will be but little larger than the cavity of the uterus ought to be were it in its normal condition. This cavity will be too small to contain the ovaries or any considerable portion of the peritoneum. It will be too small to contain any thing more than the ligaments of the ovaries, a small portion of the round ligaments, a

portion of the oviducts, and that portion of the broad ligaments covering the proximal portion of these cords. This uterus and the artificial cavity formed within, will be, I say, in these cases, but little larger than they should be were the uterus in its normal position and condition; and yet this cavity must always be a little larger, for the uterus in its normal condition could not accommodate the parts just named in its cavity. But the tumor will be not much above the normal size, and it will be dense or resisting.

Not so with those of the second class—those in which the tumor is considerably enlarged. In the first class the tumor being small is hard or dense. In the second class the tumor being large will be soft or spongy, or even elastic. In this class we have a different condition of the parts to consider. This enlargement may be owing to congestion of the uterus or to defective involution, in which cases it will be soft or spongy, and being enlarged it will contain a larger portion of the ligaments just named, and it may contain the ovaries. If it be true that the enlarged uterus will have its cavity enlarged also, and this is true, except where the inversion has occurred slowly as by a pathological growth, then the quantity as well as the character of the contents, will depend on the size of the cavity. If the cavity be enlarged or elongated so that from top to bottom it measures more than an inch and a quarter or an inch and a half, the ovaries will be pulled down into the cavity.

It will be admitted that in a recent case of inversion occurring after labor, this anatiomical relation of the parts will exist; but I insist that these conditions must continue, even when the case has become chronic, provided the cavity remain large, and this will be the case whilst the uterus remains large. It is certainly true that an inverted uterus after parturition, has its cavity made

smaller as the uterus becomes smaller, so that by the time the uterus shall have been reduced to its non-gravid size, all of the contents, whatever they may have been, are pushed upwards out of the cavity by the contracting walls. But until this process shall have been completed these contents will still remain in this cavity. This is a fact to which I attach very considerable importance, and to which I call particular attention.

But not only does this second class differ from the first, in the amount and possibly the character of the contents, but the uterine parietics are in a very different condition. Generally they are thicker and softer and contain more blood. The uterine walls immediately after parturition are about an inch in thickness. If, when the tumor is examined in chronic inversion, the involution has never commenced, these walls will still retain this thickness. But if this process has progressed to any extent, these walls will be reduced in their thickness; this reduction in the thickness of the walls, must either diminish the size of the tumor, or it will increase the size of the cavity within.

We will first consider those cases of enlarged tumor in which the walls are but a little less dense or firm than the class of cases first described. The lack of density of these walls will generally be in proportion to the increase in the size of the tumor. If the tumor is but little above the size of the normal multiparous uterus, it will be but little softer; but if it be much larger it will be much softer or it may be spongy. This class includes all of the cases in which the involution although previously established, has, from some cause, been incomplete.

This uterus, if still in a physiological condition, is bordering closely on a pathological state. At the very close of a healthy pregnancy the uterine parieties, although greatly increased in their thickness, are still in

a perfectly healthy state. Muscular fibres, vessels, nerves, etc., before in merely a rudimentary condition are, at this period, brought up to complete development, and in this full development there is no element of disease. Not so, however, after the pregnancy is brought to a close. At once an action directly the opposite is established. Much at least of this hypertrophied structure is completely dissolved and removed by the retrograde process called involution which now sets in. The uterus undergoing this retrodrade process can scarcely be said to be in a healthy state, until this process shall have been completed. But especially does disease ensue if this involution shall be arrested at any time before its completion. Possibly inflammatory exudation may sometimes take place in this structure, or as before stated, it may be in a state of congestion. But the walls are always thicker and contain more blood, in this class of enlarged tumor.

The class of cases then, which we are now cosidering, have their walls in this unhealthy condition, having an excess of blood and other material that ought not to be there. But in examining the cavity of this inverted uterus, enlarged on account of the too great thickness of its walls, we find that the cavity is enlarged also. It will then, provided it be a complete inversion, contain a larger portion of the ligaments, etc., above mentioned, and may contain, as we have seen, the ovaries.

The other cases of enlarged tumor to be next considered differ still more widely from the class first described. In these cases the tumor will be soft, and if very large, will be elastic to the touch. Here the involution will have been completely accomplished and there will be no congestion of the tumor. An enlargement of the uterus under such circumstances can be effected only by having the uterine parieties put on the stretch.

An inverted uterus having its walls thus on the stretch and having these walls thereby made thinner, must have still a larger cavity within. What then shall occupy this cavity? The answer to this question must, as in the preceding cases, depend on the size of the cavity. It must contain at least the same organs or parts of organs as were described in the first class, and it may contain others. It may even contain loops of small intestines. A very remarkable case of this kind is reported or referred to by Leveret. It is a case of a patient aged seventy years, who had the uterus turned inside out, and containing in its cavity, not only the whole of the uterine appendages, but portions of the rectom, bladder, and small intestines, forming a large tumor between the thighs. There is in fact no reason why an extreme hernia of the small intestines may not occur in this way so soon as the muscular structure of the uterus being still soft begins to yield or give way.

Bearing these general facts in view, we are better prepared to consider the important operation of amputation, and correctly to estimate the propriety of resorting, in certain cases, to Dr. Thomas' method as a substitute for it. I think we may say that in the class of cases first described, namely, those in which the uterus is small, the amount of peritoneal surface involved being therefore small, the structure firm and healthy, the cavity containing no important organ; the operation of amputation, if skillfully performed cannot be so dangerous as Dr. Thomas' operation. Amputation in these cases will not, I think, be an extremely dangerous operation. In cases where there is complete inversion, the entire uterus, cervix, and all being turned inside out, it may be necessary in dividing the tumor to remove the entire fundus and almost the entire body of the uterus, in which case the ligaments heretofore described, as well as the oviducts

must, of course, be divided, and a larger portion of the peritoneum involved in the ablation. But in cases where the inversion is not so complete, the entire neck, and even a large portion of the body may be left in tact. In either of these cases amputation is not likely to affect the patient in any other way than to impair her menstruation and to destroy altogether her power to bear children, but leaves her in, perhaps, the possession of all her other feminine qualities.

In the second class of cases, in which the uterus is enlarged, and where a greater portion of the peritoneum, the oviducts, and ligaments are inclosed in the cavity, and where even the ovaries may be contained; and where, moreover, the walls of the uterus are soft and thick and full of blood; amputation would certainly be attended with more danger than in the first cases. There would be more danger of hæmorrhage of peritonitis and of septiæcmia.

It is even possible that the enlargement of the inverted uterus may be due to a true phyertrophy, not the physiological or periodical hypertrophy which belongs to the pregnancy but a true hypertrophy coming on after the temporary or periodical hypertrophy of pregnancy shall have passed away by involution. I say it is possible that such an hypertrophy may sometimes occur, just as it may occur in any other organ or part of the body. But an enlargement of the inverted uterus from such a cause must be extremely rare. I have no where seen any description of it.

But even in these cases, although the cavity might not be greatly increased in size, there would nevertheless be greater danger of hæmorrhage and of septicamia. In all of these cases then, whether the enlargement is owing to increase in the size of the cavity, or to the thickness of the uterine walls from congestion, from inflammatory

exudation, sub-involution or true hypertrophy, Dr. Thomas' operation would no doubt be preferable to amputation.

The remaining cases, in which the uterine walls are thin, the cavity large and containing, possibly in addition to all the other parts above mentioned, loops of intestine, can never require or admit of either amputation or Dr. Thomas' operation.

Dr. Thomas' method then, it seems to me, is to be preferred in the cases of the second class above described. Cases, however, of this class which cannot be cured by some form of taxis without a resort to gastrotomy, must be comparatively few in number, for we have seen that in these cases the cavity is large and that the walls are in such condition that by persistant squeezing and molding of the tumor, the replacement can almost always be effected. The second case in Dr. Thomas' paper on inversion, first reported by Dr. Worster of New York city, contains an interesting hint or two on this point. It is entitled "a case of reduction of a completely inverted uterus of four years standing by means of *pressure* and a peculiar mode of manipulation." Further on in describing that case, he says: "I again seized the protruded fundus with the two fingers of the left hand and thumb thrust into the right cornu, *and by long and strong compression, so diminished its size that I could carry it up much further than before and found that but little had been lost by the delay.** The bulk of the uterus within the embrace of the finger, had retained its position, *and was much diminished*, and could be now easily pushed beyond the grasp of the surrounding cervical ring."

This case of Dr. Worster's, as will be perceived, must have belonged to the second class that I have described. The uterus was enlarged for it was "by long and strong

* The Italics are mine.—W. H. N.

compression *much* diminished." This case treated by hands less skillful than Drs. Worster and Thomas', might have been pronounced irremidable by any other means than amputation. Dr. Worster further remarks, that this case, for "the severity of the efforts made for its reduction is, possibly without a parallel in obstetrical history," yet these efforts were successful and not an unpleasant symptom, he tells us, occurred in this case afterwards.

That the size of the uterus can sometimes be diminished by proper compression is thus sufficiently demonstrated. That the only tumors whose size can be diminished are those belonging to the class of enlarged tumor, and not the small dense uterus, is also true. It would be highly interesting, and I think important, to know exactly the number of the cases heretofore subjected to amputation that were of the class of enlarged tumors. That some of them were of this class cannot be doubted, nor have I any doubt that a few of them might have been cured by taxis, together with persistant and skillful compression. Little attention, however, seems to have been given to the size of the tumor, in these cases, a matter which I am endeavoring to show, is of the highest importance. Dr. Thomas does not, I believe, in a single one of the fifty-eight cases referred to in his pamphlet, alude to the size of the uterus.

The mortality after amputation is set down by him at about 25 per cent. It could not, it seems to me, have been so great if amputation had been restricted to cases of the first class above described, as it could not have been otherwise than very great in the cases of enlarged uterus. I know that most of the reported cases were treated by the masters of the art, and that it is fair, therefore, to presume that the replacement of the uterus, by any kind of taxis was impossible, but this simple circum-

stance is not enough to place the point beyond question. It is not enough that the operator shall have had a small had and good control over the hand. It is even more important that he should have had perseverance, together with a correct knowledge of the condition of the uterine parietes and of the abnormal relations of the parts concerned. Sufficient attention may not have been given to these matters even by these masters. I venture to believe that of the fatal cases a very large proportion were of the enlarged kind.

But it is very probable that of these cases of enlarged uterus on which amputation was practised, some few of them could not have been cured even by the most patient and intelligent manipulations. In such cases a resort to Dr. Thomas' operation would, I believe, have been proper. These cases, as we have seen, were not suited to amputation. They are cases which, on account of the patulous state of the mouth of the cavity, as well as on account of the soft condition of the walls, ought to yield to taxis. The important or "bold" part of Dr. Thomas' operation consists in the cutting through the abdominal walls, and the peritoneal lining, for the purpose of facilitating the manipulation, and whilst, therefore, the operation cannot but be regarded as a "bold procedure," still, in view of the preceding facts, as well as on account of the eminent success which attended its first performance, it should, it seems to me, be regarded as one of the legitimate methods to be now and then resorted to in the management of this serious accident.

ART. III.—HEART CLOT. By T. H. TURNER, of Humboldt, Tennessee.

In the town of Union City, Tennessee, on the 17th of July, 1869, where I was then residing, I was called to see Mrs. L., at 4 o'clock, A. M., in third labor. She had been

in labor half hour when I arrived. She was suffering intensely from the rapid progress of labor which came on while she was asleep. Upon examination I found the os uteri well dilated, and the bag of waters protruding, which gave way very soon, and within ten minutes after my arrival a male child was born, weighing seven pounds. Presentation: vertex, right acetabulum.

Upon further examination, I found another child *in utero*. In five minutes contractions came on again, and a female child was expelled. Vertex, left acetabulum—combined weight 14½ pounds.

Up to this time not a drop of blood was seen, and then but very little, not as much as in ordinary labors. Noticing immediately that she had sustained considerable shock, I administered alcoholic stimulants freely, with a full dose of opium. Examining the hypogastrium I found the uterine tumer firm and solid—uterus well contracted. Pulse about 140 and very weak. After giving the necessary attention to the babes, I repeated stimulants and proceeded to remove the placentæ, which were united and lodged in the vagina. I am sure that she had not lost exceeding eight ounces of blood up to this time. Still no improvement in pulse or general condition. Half hour after removing placentæ, seeing that she was suffering considerably from dyspnœa, I introduced the index and middle fingers and turned out of the uterus about 6 ounces of clotted blood. This was followed by temporary relief from the diffieult breathing; why, I know not. But she remarked that she felt much better. However, I saw no improvement in the pulse and the dyspnœa, with great oppression over the region of the heart, soon became alarming. She remarked to me, that she must die, and, in the most pitiable tones, asked me if I could not relieve her. With the stimulants at my command I could do nothing to avert the impending

crisis, and about one hour and a half after delivery, she died without a struggle.

Soon after delivery, I sent for Dr. D. M. Pearce, but he being in the country, I sent for Dr. Mardick, who arrived only a moment before she died.

A very interesting feature in this case is the probable cause of death. I know that she did not lose exceeding twenty ounces of blood; hence, she could not have died from loss of blood. Her general health was very bad and had been during the whole time of gestation. Had retained hardly food enough to sustain life, from sick stomach; was very anæmic, with considerable œdema of feet and legs. The liver had been in a torpid condition for months. The kidneys had performed their functions normally, from the best information I could obtain. Her husband, not appreciating her condition, had failed to secure the services of a physician until her accouchement. Although, in her precarious health, she could illy sustain the loss of any considerable quantity of blood, still she ought to have survived twenty ounces. Considering the great shock to her nervous system from so rapid a labor, the dyspnœa and oppression of the chest, and death from asphyxia, (?) I came to no other conclusion than that of death from *heart clot, from nervous shock.*

She was a very amiable lady, one whose life might have been prolonged, had proper precautionary treatment been instituted in time.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

Art. I.—The Relative Dangers of Anæthesia by Chloroform and Ether, from Statistics of 209,893 Cases.

The determination of the actual rates of danger in the use of our principal anæsthetics is a desideratum long felt by surgeons, but one which, owing to the difficulties of the undertaking, has generally been despaired of. M.M. Perrin and Lallemand, of France, in their elaborate work upon anæsthesia, pronounce the accomplishment of the task impossible. They remark, that to obtain the result, it would be necessary to "compare the number of the fatal cases with the approximate number of etherizations, so as to deduce the proportion of deaths. That last term of the comparison is wanting, and we hesitate not to say will always be wanting." (*Traite d'Anesthesie, pp.* 335, 236.)

Other surgeons seem to have been equally hopeless of success in this matter, so that our best works on anæsthesia are often perfectly silent, on the important point of the relative dangers of the different articles. Yet this is the very thing on which the the surgeon most needs light, at the present time. It is well known that chloroform is by far the most convenient article for use, and, therefore, always to be preferred, if equally safe; but if it is materially more dangerous than ether, the conscientious surgeon will choose the latter, for the sake of the safety of his patient. This is, therefore, a question of tremendous magnitude, possibly invoving thousands of lives in its decision, hence the surgical profession will not quietly acquiesce in the opinion that its solution is impossible.

A three years' investigation has shown that this apparent impossibility may be overcome, and that although mathematical precision may be unattainable, yet a statistical approximation, sufficient for all practical purposes, may be established. Although we can ascertain neither the whole number of anæsthesias which have taken place in the world, nor the whole number of resulting deaths, yet we can obtain from hospitals and private records numerous masses of statistics, each of which gives a

great number of anæsthesias, and the exact number of deaths pertaining to it; and by adding many such masses together, we can obtain cases enough to establish the ratio of danger. My figures thus obtained give us 92,815 cases of anæsthesia by ether, and 117,078 by chloroform, with the resulting deaths from each.

Up to the present time, the attempts to determine the ratio of danger have been as follows: In 1859, Dr. John Chapman, of England, made a rough estimate, that chloroform had been given in all the hospitals of the world about 1,200,000 times; at the same time he gathered from books and journals 74 recorded deaths. He assumed that this represented the entire number killed by the anæsthetic, and that, consequently, the mortality was one to 16,000 anæsthesias. (Westminster Review, January, 1859). The error of the calculation, of course, consists in assuming that all deaths are published. Physicians, resident in Paris, inform me, that only about half of the known deaths from anæsthesia appear in print, in that city, while in England and this country, probably not one-fifth part are ever published. As a general rule, a surgeon who has killed a patient by chloroform does not feel in a mood for publishing it; hence the whole calculation is worthless, and the idea of the imposing authority of a quarterly review, being lent to the support of such an absurdity, is certainly amusing.

Dr. F. Sabarth, of Wurtemburg, published in French, a work which was deemed worthy of translation into German. He estimates that all the anæsthesias in the world, during fourteen years, had amounted to 3,000,000; and finding 119 published cases of deaths, he reckons the mortality at about one in 26,000. It is obvious that this calculation is vitiated by the same blunder of supposing that all the deaths are published.

After the Crimean war, Baudens stated, that there were in that campaign 30,000 chloroformizations, in the French army, without a single death. (Rev. de deux Mondes, April, 1857). Were these figures reliable, they would be a valuable addition to our statistics; but they are under suspicion. In the first place, the round number, 30,000, looks very like a vague estimate, rather than a statistical footing; secondly, a total absence of deaths in 30,000 chloroformed cases is contrary to the experience of all the rest of the world; and, finally, other French surgeons, present in the army, are said to affirm, that they

personally knew deaths to occur from chloroform, which were not put on record as such. In the English Crimean army, one chloroform death, at least, is known; but the official reports give us no clue to the number of administrations of the article.

Dr. Richardson, of England, has, perhaps, given more attention to this matter than any European writer. He is quoted by Sansom, as having estimated in the Medical History of England, that the ratio of deaths from chloroform is about one in 17,000; but I infer that this is either a misprint, or else Dr. Richardson has since changed his opinion; for he has informed me that he now estimates the mortality about ten times higher that that, *i. e.*, one in 1500. Yet, Sansom's statement is still the basis of opinion for most of the London surgeons, on this subject.

In respect to the dangers of ether, the only information I find is the report of a committee of the Society of Medical Improvement, of Boston, which gives the opinion that no death has ever been known from that agent, while the surgeons of Lyons, in France, who use ether exclusively, and believe it to be much the safest article, yet admit that it occasionally kills in their hands.

The facts collected in the following pages will, I hope, enable us to draw correct conclusions on this subject. The information was mainly obtained by personally visiting the principal hospitals of the world; but it is supplemented by correspondence with spots not visited, as well as by information from other sources, such as reports of tne Surgeon-General of the U. S. Army, private records, etc.

In obtaining these facts, my method of procedure was, to take from the records of each hospital (where reliable records existed), the number of anæsthesias and the number of resulting deaths. Reports of deaths, not accompanied with the number of anæsthesias, and reports of anæsthesias, not stating the number of deaths, are rigidly rejected. Where reliable records did not exist, I obtained, by personal consultation with the House Surgeons, a careful statement of the annual number of anæsthesias, based on the known average frequency per week, and carried this estimate over any period, during which the same officers could certify positively as to the number of deaths. All these cases are surgical; the results of anæsthesia, as used in midwifery, not coming within the scope of my inquiry.

In deciding what deaths were really caused by the anæsthetics, I have generally followed the opinion of the officers reporting them; but where this could not be obtained, I have adopted the principle, that for a death to be fairly attributed to the anæsthetic, it must be immediate, or nearly so, and there must be no other probable cause present. These rules exclude a great number of deaths, vaguely reported as due to chloroform and ether. Thus, out of 21 reported to the Surgeon-General of the U. S. Army, as caused by chloroform, only seven were found fairly attributable to that agent. It is not possible to keep absolutely clear of all errors, on this point, but I think I have obtained a close approximation to the truth; and as I have pursued exactly the same course with ether as with chloroform, the errors, if any exist, must be fairly distributed on both sides of the question, and the results of the comparison of the two anæsthetics cannot vary much from mathematical verity. The following tables will show the results of the inquiry :—

Table of Chloroformizations, with the accompanying deaths.

SOURCES OF INFORMATION.	CHLOROFORMIZATIONS.	DEATHS
Chicago (Hospital and private records).....	6,726	5
Bellevue Hospital, N. Y. (about 1867-8),.....	600	1
Charity "	1,460	2
Private practice of a Surgeon in Phila., about	1,000	0
U. S. Army Records (Circular No. 6),.....	13,956	7
Royal Infirmary, Liverpool..,.....	2,000	2
Workhouse Hospital. "	1,800	0
Southern " "	2,000	1
Northern " "	950	0
Charing Cross " London,.....	800	1
Middlesex " "	600	0
Royal Ophthalmic Hospital, London,.....	2,808	1
Guy's Hospital, (Eye Department), "	3,224	0
" " (Surg. Departm't), "	11,509	3
*University Hospital, "	18,250	4
Dreadnaught " "	1,400	1
London " "	13,000	3
St. George's " "	8,000	2
Westminster " "	3,120	1
St. Thomas' " "	3,746	2
Other London Hospitals,.....	9,826	3
La Pitie, Paris,.....	312	2
K. K. Allg. Krankenhaus, Vienna,.....	10.000	2
Totals.....	117,078	43
Ratio of Mortality,.....		1 to 2723

* Mr. Erichsen stated, that there were only two deaths, but the House Surgeon informed me that there had positively been four. As Mr. Erichsen may have forgotten, or never known of, deaths occurring in the service of the other surgeons, I have adopted the statement of the House Surgeon.

SULPHURIC ETHER.

In investigating the dangers of ether we are met by contradictory assertions, among those who use it most extensively. A committee of the Boston Society of Medical Improvement, headed by Dr. R. M. Hodges, made a report in 1861, maintaining that no death had yet been correctly attributed to ether. On the other hand, the surgeons of Lyons, in France, who use ether exclusively, claim that it occasions a few deaths. I have succeeded in collecting nearly 93,000 cases of anæsthesia, by ether, and among them were found deaths which seem as fairly attributable to that article, as similar cases are to chloroform; though there is a bare possibility of error, of course, in either anæsthetic. Following the rule above indicated, I count, for the present purpose, only the deaths occurring among the 93,000 cases reported to me, and and make no assertion *pro* or *con*, about deaths reported outside of that list.

In the New York Hospital, the officers report two deaths from ether, one of which, I reject as not fairly coming within that designation. The rejected case was admitted March, 1864, for a stab in the neck which had penetrated the carotid artery. A large effusion of blood into the tissues occurred, making a tumor which pushed the trachea an inch to the other side, and so pressed upon the nerves as to occasion great pain. Hæmorrhage repeated itself about every half hour, till the next day, and was checked each time by pressure of the fingers. The tumor continued to enlarge and press more severely, and the next day it was resolved to make an effort to secure the artery by ligature. The patient was etherized, when the respiration became embarrassed. A second attempt was followed by the same result, and, in a few moments, by death. I conclude, that in this case, the pressure of the tumor on the respiratory nerves was such as to partially paralyze them, requiring the mental attention of the patient to keep up the respiration; and the compression of the trachea might add to the trouble. As soon therefore as the volition was withdrawn by anæsthesia, the respiratory efforts would be embarrassed, and the result become fatal. In fact, the patient might be called already moribund, since the exhaustion of voluntary respiration would bring about the same result in a few hours. In these circumstances, the administration of a full opiate, or any other method of withdrawing the mental atten-

tion from the respiratory process, would have a like effect. It may, in a certain sense, be true, that the death occurred a little sooner, on account of the ether; but this is not what we mean by death from the toxic influence of the anæsthetic. I should, without hesitation, reject such a case from the list of deaths by chloroform, and do the same by ether.

The other case was admitted September, 1865, for cancer under the canthus of the eye, which also seemed to occupy the cavities of the maxilla. The patient was etherized, and the operation commenced, everything appearing favorable. No great amount of blood was lost, but, early in the operation, respiration ceased, and the patient died, in spite of all efforts at resuscitation. There was no autopsy. Of course, it is possible that some other cause of death may have been present, but it is not probable that the patient would chance to die at that exact period, from disease, without the ether. Had such a death occurred under chloroform, I would, without hesitation, attribute it to the anæsthetic; and I coincide, therefore, with the officers of the hospital, in calling it a death from ether.

In the hospitals of Lyons, in France, five deaths have been spoken of as caused by ether. These have been carefully discussed by Dr. Gayet, Surgeon-in-Chief of the Hotel Dieu Hospital, of that city.

The first case was in 1352, at the Hotel Dieu, and was precisely like the one in New York Hospital, being a cancer of the superior maxilla. The patient was pale, thin, and cachectic. She was carefully and successfully etherized; but in the early stages of the operation, before the bone was touched, she ceased to breathe, and died, apparently of syncope. It should be mentioned, that the operation was in the sitting posture, a most dangerous position. But little blood was lost, however; and I incline to attribute the syncope to the anæsthetic, and, therefore, rank it as a death from ether.

The second case occurred at the hospital called l'Antiquaille, and was that of a woman etherized, for the removal of vegetations from the vulva. After a time, the pulse was found very feeble, and the operation was abandoned. Efforts to restore her failed, and she died. The surgeon of the hospital considered it a case of death by ether. The autopsy disclosed no cause of death.

The third case was of a man whose leg was crushed off

by a locomotive. There were contusions of the abdomen and chest, and great hæmorrhage. The shock was great, and the patient already speechless. He was etherized, and the thigh amputated, the patient dying during the operation. This is plainly a death from shockand hæmorrhage, and not to be classed with the accidents from anæsthetics.

The fourth case was almost an exact repetition of the third. The patient had a terrible injury of the inferior extremity, with four violent hæmorrhages, from a railroad accident. His thigh was amputated, under ether, and he died in less than an hour afterwards. This is evidently a death from shock and hæmorrhage.

The last case was of a woman, whose autopsy showed tubercles in the spinal column and in both hip-joints; the cavities of the articulations being filled with cheesy matter, mingled with the débris of the bones. There was also a small tumor in the pia mater of the cerebrum. She was etherized, and the flexed thighs straightened with some force. The adductor muscles, on both sides, were torn, and the neck of one femur broken, by the operation. There was also considerable blood effused. The patient showed signs of syncope, but, by the prompt use of restoratives, recovered her pulse and color, and was carried to her bed by the attendants. Arriving at the bed, she fainted a second time; and the nurses not understanding what to do, she was past recovery before the surgeon was called. There is more doubt about this case than about either of the others; but after considering the terrible condition, both of the brain, the spine, and the hip-joints, and the natural results of extensive laceration of muscles, effusion of blood, and fracture of the neck of the femur on such an exhausted constitution, it appears to me that the ether was not chargeable with the death. I coincide with the officers of the hospital, therefore, in the opinion that the patient succumbed to simple syncope, caused by the operation, and rendered fatal by the accidental absence of skilled assistance, on its second recurrence. Two other cases of death have been spoken of, in the vicinity of Lyons, as caused by ether; but not being in the hospitals, they do not come within the scope of my statistics.

Finally, one case of death by ether is reported to me verbally, by the officers of St. Thomas' Hospital, London. I could not learn the particulars.

We have, therefore, four deaths, apparently caused by ether, in circumstances where we can make a comparison with the total number of cases of anæsthesia, among which they occurred. The following table gives a view of the results:—

Table of Etherizations, with the accompanying deaths.

Sources of Information.	*Etherizntions.*	*Deaths*
Chicago Records	895	0
Mass. General Hospital, Boston, about	25,000	0
City Hospital, " "	8,760	0
New York Hospital, New York	5,100	1
Bellevue " " " (about 1868-69)	600	9
Pennsylvania Hospital, Philadelphia	2,500	0
Episcopal " "	3,432	0
Private practice, "	250	0
U. S. Army (Circular No. 6)	6,978	0
St. Thomas' Hospital, London, about	1,000	1
LaPitie " Paris, about	300	0
Hospitals of Lyons, about	38,000	2
Totals,	92,815	
Tatio of Mortality,	1 to 23,204	

It is evident, therefore, that the ratio of mortality, in surgical anæsthesia, by chloroform, is about eight and a half times greater than by ether.

Sufficient statistics upon the subject of mixtures of chloroform and ether have not been collected to form a sure basis of opinion. The following table, as far as it goes, seems to show that the ratio of danger is, as might be expected, between the other two:—

Table of Anœsthesia, by mixtures of Chloroform and Ether, with the accompanying deaths.

Sources of Information.	*Anœsthesias.*	*Deathr.*
Chicago Statistics, about	350	1
U. S. Army (Circular No. 6),	2,326	0
Guy's Hospital, London,	8,500	1
Totals	11,176	2
Ratio of Mortality	1 to 5588	

From this it would seem that the mixtures have proved twice as safe as chloroform, and about four times more dangerous than ether.

With regard to the new anæsthetic, bichloride of methylene, we have as yet no decisive results, but the English journals report a single death among about 7000 cases.

Nitrous oxide, contrary to our first impressions, turns out to be the safest of all anæsthetics. It is not easy to place the result in figures; but in cities where we constantly have deaths from chloroform, we seldom hear of any by the gas. The only statistics which I know of on the subject are those kept by the Colton Dental Association. This is an associated circle of dental establishments, with branches in all the largest cities, which confine themselves exclusively to the extraction of teeth, and invariably use the gas as an anæsthetic, and preserve a record of each case. The plan of this record was prepared by Dr. Colton, at the suggestion of a member of Congress. I have no means of positively verifying its accuracy, but, yet, I attribute considerable value to it. The Association, at the present time, claim to have anæsthetized about 75,000 patients, in the United States, without any death.

Finally, if we summarize the whole matter, it seems that the various anæsthetics have the following rates of mortality:—

Sul. Ether,.....	1 death to	23,204	administrations
Chloroform.....	1 "	"	2,723	"
Mixed Chloroform & Ether	1 "	"	6,588	"
Bichloride and Methylene	1 "	"	7,000	"
Nitrous Oxide.....	No death in	75,000	"

Chicago, No. 6, 16th street, April 5,1870.

ART. II.—VAGINAL OVARIOTOMY. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York.

Mrs. S., a multipara of spare habit and remarkable excitable nervous system, had suffered for a length of time from retroflexion of the uterus. For this she had been successfuly treated by Dr. J. L. Brown, and for the past three years had been entirely free from any rational or physical signs of the condition until four months ago. At this time finding a return of symptoms, due to pressure upon the rectum, she sent again for her physician. Dr. Brown examined and discovered a movable cyst behind the uterus, which, in the erect and supine positions, pushed the fundus uteri forwards and occupied Douglass' cul-de-sac completely. This cyst was equal in size,

when first discovered, to a large orange; was painless upon pressure, and could readily be pushed out of the pelvic cavity. Dr. Brown made the diagnosis of cystic degeneration of the ovary, and advised the patient to seek further counsel.

In accordance with this suggestion, Drs. Peaslee, Noeggerath, and myself met in consultation and carefully investigated the case. At this time we found everything in accordance with what has been already stated, and concurred in the opinion of Dr. Brown; deciding still further that the right ovary was the the seat of the disease, and that the cyst was in all probability multilocular.

In discussing the subject of treatment three plans were proposed: first, that the cyst should be allowed to develop so that ovariotomy might be might be resorted to after some years of life had been passed in comparative comfort; second, that the cyst should be tapped per vaginam; and third, that tho operation of ovariotomy should be performed through the fornix vaginæ, in the same manner that it is ordinarily accomplished through the abdominal walls. The last proposal was made by myself, and urged upon these grounds:

1st. I felt satisfied that the cyst being movable (as proved by the fact that the knee-elbow position would at once cause it to roll out of the pelvis), sufficient space could be obtained through the fornix vaginæ to withdraw the emptied sac.

2. I preferred this procedure to simple tapping, because drainage is very apt to follow paracentesis when practiced through the vagina, which might exhaust the patient and prevent a resort to vaginal ovariotomy at a later period. Furthermore, I did not regard the increase of danger attendant upon vaginal section as very great, even if removal of the cyst proved impossible; for in case of such an occurrence I proposed simply to tap the exposed cyst and close the vaginal opening by silver sutures.

3d. I urged the adoption of the vaginal operation rather than waiting for the full development of the cyst, because of the peculiarly anxious nature of the patient. After being informed of the nature of the disease, she thought and spoke of almost nothing else; lost appetite, slept badly, and evidently depreciated in strength. From all that I could learn from her husband, who is a practitioner of medicine, from Dr. Brown, and from my own

obeervation, I thought that she would prove a most unfavorable case for ovariotomy, at time of full development of the tumor; and, to repeat a consideration just given in connection with paracentesis, I regarded the tentative process as not attended by great risk, since it involved incision only into the most dependent portion of the peritoneum.

All these views were fully laid before the patient and her husband, and at the end of a fortnight it was decided that the operation should be attempted.

Dr. Brown prepared the patient for the operation by the use of a cathartic, and kept her upon a milk diet for forty-eight hours previous to its performance. On. Sunday, Feb. 6, 1870, at 3 P.M., I proceeded to operate, in presence of Drs. Peaslee, Brown, Walker, Purdy, J. C. Smith, and Sproat.

Dr. Purdy having anæsthetized her with ether, she was placed in the knee-elbow position, and secured upon the apparatus of Dr. Bozeman. This apparatus not only completely secures the patient in this position, by straps and braces, but makes the position perfectly comfortable for any length of time, and also favors the administration of an anæsthetic. To prevent all possibility of the rectum falling into the line of incision, a rectal bougie was inserted for about five inches. Sims' speculum being now introduced, and the perineum and posterior vaginal wall lifted, I caught the fornix vaginæ midway between the cervix and rectum with a tenaculum, drew it well down, and with a pair of long-handled scissors, one limb of which was placed against the rectum and the other against the cervix, cut into the peritoneum at one stroke.

The first step of the operation being now accomplished, I proceeded to the second. The patient's position was changed to the dorsal decubitus, and passing my finger through the vaginal incision, I distinctly touched the tumor, which had now fallen again into the pelvis, and fastened a tenaculum in its wall. With a small trocar I then punctured, one after the other, three cysts, which gave vent to about six or eight ounces of fluid, which looked precisely like vomited bile. Drawing upon the cyst, it now passed without difficulty into the vagina.

For the third step of the operation the position of the patient was again changed. She was now placed in

Sims' position on the left side and his speculum introduced. Passing through the pedicle at its point of exit from the vaginal roof, a needle, armed with a strong double silk ligature, I tied each half of the penetrated tissue and cut off the cyst and ligature. The cul-de-sac of Douglass was then sponged, the pedicle returned to the abdominal cavity, the incision in the vagina closed by one silver suture, and the patient put to bed.

The entire operation occupied thirty-five minutes, and presented no other than those slight ones incidental to ligature of a pedicle at some distance up the vagina.

Subsequent to the operation the patient was kept quiet and free from pain by opium, sustained by fluid food, and strictly confined to the supine posture. Her only discomfort arose from sleeplessness, and nausea which followed the use of the anæsthetic, and for ten days she progressed without any unfavorable symptom. At this time being allowed to leave the bed and lie upon the lounge, she exerted herself unduly, and an attack of peri-uterine cellulitis invaded the right broad ligament. The pulse became rapid, the skin hot and dry, and a phlegmonous mass as large as the fist, hard and painful to the touch, could be distinctly felt. This soon began to diminish, and now at the end of the thirtieth day has ceased to prove a source of any annoyance, while the general condition of the patient assures me that she is entirely out of danger.

I feel confident that the attack of cellulitis which complicated convalescence in this case was not at all dependent upon the nature of the operation, but was due to indiscretion on the part of the patient in overrating her returning strength.

It is not my belief that the scope of this plan of performing ovariotomy will ever be very great, but I think that in cysts of small size, which are unattached, it will offer a valuable resource for the avoidance of years of mental suffering while disease is progressing, and of the capital operation of abdominal ovariotomy in the end, with all its attendant dangers and uncertainties. Even in a doubtful case, vaginal ovariotomy may be resorted to as a tentative measure, which, in event of failure from attachment of the cyst, would in all probability be recovered from.

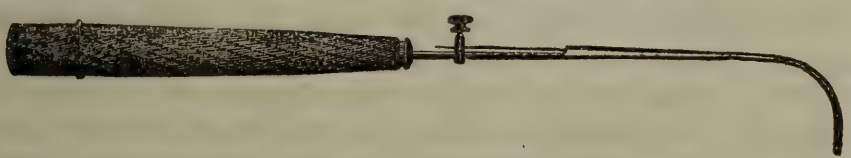
I should urge upon any one who determines to essay it, not to trust to his general knowledge of the anatomy

of the fornix vaginæ and peritoneum, but to rehearse the first step of the operation upon the cadaver before attempting it upon his patient. There is often considerable space between the roof of the vagina and the floor of the peritoneum, and it usually requires two strokes of the scissors to penetrate the abdominal cavity. The first severs the vagina; through this opening a tenaculum should be passed, and the peritoneum drawn down and opened. In thin women, if the fornix be well drawn down by a tenaculum, one stroke will often open the peritoneum.

Before operating upon the patient whose case is here recorded, I made one attempt upon the cadaver, feeling confident in my ability to open the peritoneum with certainty. The difficulty which I met with in this attempt induced me to practice the procedure on seven other dead bodies before I felt willing to attempt it on the living. After the difficulty attending this step of the operation is once appreciated, it can be readily and certainly avoided. —[*Amer. Jour. of the Medical Sciences for April*, 1870.

ART. III.—NEW STAPHYLORAPHIC NEEDLE. By J. T. MATHIS, A.M., M.D., Ophthalmic and Aural Surgeon, Vincennes, Indiana.

In the operation for the relief of cleft palate, the most difficult step is placing the suture in situ, and perhaps there is no step of equal magnitude in the whole circle of surgery, for the performance of which surgeons have more heavily taxed their ingenuity in the effort to adapt the instrument to the operation. Without penning the long list of surgeons who have figured upon the arena, without attempting to portray the comparative merits of their several inventions and appliances, I proceed immediately to the description of the needle under consideration and the manner of its use.



HALF LENGTH

It is a curved canulated needle, as represented in the figure, the curve being an arc of 70°, whose radius is ¾ of an inch.

The point and edges of the needle are formed by a

bevel* at the expense of the concavity of the curve. Through the canula passes a fine steel spring, whose proximal end is fastened, by means of a thumb screw, to a slide which movss upon the uncanulated portion of the needle, which extends from the proximal end of the canula to the distal end of the handle.

The distal end of the spring, corresponding with the point of the needle, terminates in a small hook, which rests iu a little receptacle in the end of the canula, except when it is protruded for the purpose of receiving the suture.

The mode of using the needle is very simple. Having pared the edges of the fissure in the usual manner, and the muscles of the pharynx having been treated as the surgeon may desire, he is to take the following very simple steps:

1st. Commencing at the top of the fissure, and on the left side, pass the needle through the lip of the fissure from before backward.

2d. With the thumb upon the slide, protrude the spring, which re-curves and passes forward through the fissure, and exposes the little hook on its end to the plain view of the surgeon.

3d. Arm the hook by means of a loop formed at the end of the suture (silk) taken in a pair of forceps, and then thrown over the hook on the end of the spring.

4th. By means of the siide, retract the hook holding the loop of suture to its position in the little receptacle iu the end of the canula.

5th. Withdraw the needle from the palate and from the mouth, and leave both ends of the suture hanging out of the mouth.

The deposition of the suture on the left side is now complete.

The steps for the right side are the same as for the left, using the precaution not to form the loop on the same end of the suture for both sides of the fissure.

It will readily be seen by the surgeon who has closely studied the operation, that the main advantage gained by the needle here presented is the much easier location of the suture in the second lip of the fissure, at the same time preserving the same level for both ends of the suture, because the needle is passed from before back-

* The engraver has failed to represent the point.

ward, giving the surgeon an opportunity to see the exact position of the point as it enters the palate. This can be done with no needle which is armed before its introduction, (I mean without twisting the lip of the fissure out of its natural position).

After having placed the several sutures in *situ*, if the surgeon prefer the silver suture before the silk and perforated shot, he can, with a loop on the end of the silver wire attached to the silk, draw it through and thereby substitute the silver for the silk.

This needle will also act well in operating for vesico-vaginal fistula, or almost any operation in which the suture is to be deposited in a cavity, at a remove from the hand of the surgeon; but it is best adapted to those operations in which the parts receiving the sutures are situated in such cavity, and at the same time perpendicular to the line of the surgeon's vision and operation.

The needle which I now have, and the only one of the kind in existence, as far as I know, was made in the Spring of 1867, by George Tiemann & Co., No. 67 Chatham street, New York City. Almost ever since that time, Mr. F. A. Stohlmann, of that firm, has been trying to induce me to bring it before the medical and surgical profession; but hoping to be able to modify and more extensively utilize the instrument, I have postponed its general publication until the present.

ANALYTICAL DEPARTMENT

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the Medical Times and Gazette, the British Medical Journal and the London Lancet, etc. (Original copies.) By PROF. JAS. M. HOLLOWAY, M.D.

Dr. Joel Dircetor of the Children's Hospital, at Lausanne, gives a most interesting and suggestive case showing the admirable effects of sulphate of iron in the treatment of burns. A child had been badly burned and the subsequent suppuration was so profuse that putrid intoxication was imminent among the attendants; the odor was insupportable to the other inmates. The child was placed experimentally in a bath of warm water into

which had been thrown two handsful of sulphate of iron. The effects were remarkable; the child became better; was much relieved; the suppuration rapidly diminished and all odor was entirely checked. This case will, it is hoped, be soon the means of having the beneficial and remarkable effects of the agent used generally known.

It should be well known that pills of carbolic acid are producing excellent effects in the treatment of psoriasis, pityriasis prurigo, etc. Kohn gives from 6 to 12 pills, each containing the $\frac{1}{8}$ of a grain, once or twice in twenty-four hours.

The British Medical Journal contains the statement that Dr. Peter, of Paris, after a long experience, has abandoned the use of the blister for counter-irritation, etc., and uses now in preference, in all cases, the tincture of iodine. The irritation is more easily regulated and the danger of gangrene is obviated. Dr. Peter also uses the ice poultice, with excellent effects, in the treatment of tympanitis. Small pieces of ice are scattered over an ordinary flaxseed-meal poultice, and this is applied in the usual way. The effects are excellent.

The same journal contains an article from Dr. J. Reynolds in which he states that he has used the tincture of the perchloride of iron in rheumatism with the most excellent results. The earlier and more freely the iron is given the more brief and moderate is the disease.

The same journal contains an article recommending the free use of carbonate of ammonia in the treatment of diabetes mellitus; 100 grains are placed in a pint of water and an ounce is given from four to five times a day, the intervals being arranged judiciously.

The Medical Press and Circular publishes an article in which the use of lime-water is highly recommended in the treatment of Bright's disease. The urine has been known to increase several hundred per cent. in quantity in twenty-four hours, while the amount of albumen was much diminished.

The Lancet contains some astonishing facts from Dr. Donkin in regard to the use of a milk diet in the treat-

ment of diabets mellitus. In two cases, well developed, the patients were rapidly restored to health.

According to the British Medico-Chirurgical Review, the European physicians seem to becoming enthusiastic in the use of veratrum viride in the treatment of pneumonia. Many assert that it not only controls the fever, but the local disease. Kiemann testifies that if the drug be discontinued, the fever and expectoration will return after having disappeared, and hepatisation advances again.

The British Medical Journal contains some interesting testimony by Dr. Mackey in behalf ot the tincture of cantharides in the treatment of pyelitis. His experience justifies a free and persistent use of the remedy.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LESSONS FROM THE MEDICAL CLINIC AT THE "HOSPITAL DE LA CHARITE," GIVEN BY S. JACCOUD, Assistant Professor to the Faculty of Medicine at Paris, Physician to the Hospital St. Louis; Chevalier of the Legion of Honor; Corresponding member of the Royal Academy of Science of Lisbon, and of the Medical Societies of Berlin, Vienna, Wurzburg, etc. Containing 29 Wood-cuts and 11 Chromo-lithographs.

[Translated by Dr. J. D. JACKSON, of Danville, Ky.]

FIFTH LECTURE.—ASCITES AND CHRONIC PERITONITIS—CANCER OF THE LUNG.

Comparative study of two Patients affected with Ascites and Chronic Peritonitis—Differential Diagnosis of the two conditions—Ascites of tuberculous origin.

Coincidence of œdema of the inferior members with Ascites—Causes of the œdema—Method of pathogenetic diagnosis.—Sign furnished by the urine—Distinctive sign between Cachectic Dropsy and Dropsy from a mechanical cause—Superficial venous circulation of the abdomen in the obliteration of the portal vein, and vena cava—Characteristics of the plexus in

these three cases—Of Cancer of the Lung, and principally of the diffused form—Elements of diagnosis—Results of autopsies.

Genttemen:—When an adult affected with pulmonary tuberculosis presents persistent abdominal symptoms, and among others, a deformity of the belly, one is inclined to attribute the group of phenomena to the existence of chronic peritonitis. This presumption in the majority of cases is justified, and the pathological relation upon which it is founded, ought always to be held in mind. But though frequent, the connection is not always constant, and with our knowledge, under no circumstance can we dispense with a thorough examination. The patient, in No. 2. of our male ward, shows us clearly the necessity of this reserve.

This individual, aged thirty-seven years, strikes us by his profoundly cachectic aspect. The hollow, brilliant eyes are surrounded by a dark circle, the sunken furrowed cheeks are marbled with livid spots, the respiration is frequent, short and painful, the trunk and superior members have attained the last degrec of emaciation, and form the strangest contrast with the inferior half of the body which is the seat of a considerable tumefaction. The pulse always frequent, mounts in the evening to 120, in the morning it maintains itself between 100 and 108; the temperature also of a morning does not fall lower than 37,°9. (Cent). The patient coughs and voids purulent sputa of nummulated form.

Such is to-day, the lamentable state of this man, who certainly touches the end of his existence; and, nevertheless, three months ago, he was strong and robust, and of an embonpoint above the average. What has happened an examination of the lungs will tell us. They are the seat of a general tubercular infiltration, there is not a point where one can find the normal respiratory murmur;

tubercles have softened throughout the whole of the extent of the two lungs, and in many places, the elimination of the morbid products has left small cavities in the parenchyma; in no part is there a large cavern, but one can faithfully express the state of the respiratory organs by saying that they are riddled with cavernules. The presence of these multiple cavities does not permit here the admission of granular infiltration which is the anatomical characteristic of the granular phthisis of Bayle; it has the action of a tuberculisation of the common form which makes rapid progress through the ordinary phases of its evolution, that is to say, the periods of crudity, softening and elimination. In addition, the phthisis in this individual is not hereditary, and there was nothing in his surroundings or calling which can account to us for its sudden explosion; the disease suddenly appeared without appreciable cause, it struck down the man when in full health. He commenced coughing without having any hæmoptysis, he was soon thereafter seized with a diarrhœa which no treatment could moderate, and in three months the organism was reduced to the low state in which you see it now.

Up to this point there are no difficulties, no uncertainties, we have beneath our eyes a consumptive at the termination of his disease. But this consumptive has a large abdomen and swollen limbs, and these phenomena merit a very close examination; we will study them successively.

In such a case, I say, the first idea naturally presenting to your mind is, that it is chronic peritonitis. Setting out then from this hypothesis, which in short, as the one most frequently realized, will thus facilitate our researches, we will see if, with our patient, the tumefaction of the belly is the result of a chronic inflammation of the peritoneum. In the dorsal decubitus, the abdomen pre-

sents on a level with the median line, a very considerable development; however, the umbilical cicatrix is not effaced, and the region above this is manifestly less tumefied than the inferior portion. In turn, this is important, the sides widened and spread out, make from each side an evident projection, a kind of abdomen which in its whole aspect, has been very exactly likened to the belly of the frog. This examination of the external form of the abdomen, is not very favorable to the idea of a chronic peritonitis; pursuing our course, we now interrogate percussion, palpation and auscultation.

In all the supra-umbilical region, and upon the median line for two fingers breadth beneath the umbilicus, the sonorousness is good, the intestinal sound is pure. Beneath this limit, to the pelvis and into the two flanks, the sonorousness fails, we have here dulness; this mounts higher on the lateral parts than upon the median line, insomuch that the superior level of the dullness is not figured by a horizontal line, but rather by a curve with its concavity looking superiorly. From these facts we are to conclude that there exists in the belly a liquid effusion, and that this effusion does not entirely fill up the abdomen. This last proposition is further demonstrated by the modifications presented in the results obtained by percussion under the influence of changes in the decubitus; when we make the patient lie entirely upon his side, the right side for example, the right half of the abdomen is distended, because the effusion accumulates in obedience to the laws of gravity; the dullness is now very marked, whilst the left side freed from liquid, gives out resonance. If we repeat the proof by its counterpart, that is to say, if we cause the patient to lie upon his left side, the seat of the phenomena is re-reversed, it is this side which is dull, and the clearness appears on the right side. It is very evident that these

displacements of liquid could not take place if the abdominal cavity was completely filled. But, this is not all, this mode of exploration brings us yet another bit of knowledge of great importance: the facility, the rapidity with which the effusion oscillates en masse from one side to the other, according to the position of the individual, demonstrates clearly, that it is free, perfectly free in the abdomen; it is not encysted; it is not circumscribed or divided by false membranes; in a word, that no obstacle limits its mobility. This contribution is a capital one.

Palpation furnishes a fluctuation perceptible at a great distance, and the trial of the shock gives, with rare precision, the sensation of undulation of a liquid, the sensation of a wave, which ought not to be confounded with fluctuation properly so called.

Auscultation practiced on divers points of the abdomen, whilst the patient draws deep inspirations, or while he inclines the trunk to one side or the other, elicits intestinal sounds, but nothing which resembles the peritoneal friction, which the false membrane deposited upon the serous membrane sometimes produces.

In presence of this assemblage of signs, all equally characteristic, hesitation is not possible; the ventral intumescence in our patient is due to an ascites, and not at all to a chronic peritonitis. Permit me, in a few words, to recall to you the physical signs in this last patient, the means of exploration to which we came to have recourse; the complete opposition on each point will not leave you the least doubt ot the correctness of my interpretation.

The form of the abdomen in chronic peritonitis can be divided into two types: sometimes it is flat, retracted, and hollowed in furrows, and sometimes again it is tumid; but this tumefaction is uniform, spread out as it were, and never produces that enlargement of the sides,

this prominence of the peri-umbilical region which you observe in ascites, however inconsiderable it may be. By percussion, complete dullness may very probably be elicited, because chronic peritonitis is sometimes accompanied with liquid effusion; but as this effusion is generally not very abundant, the dullness is limited to the inferior portions of the abdomen; in this case even, it is rare that displacement of the liquid en masse is obtained, because it is circumscribed and retained by the false membranes which have more or less united the abdominal viscera and the two serous surfaces. When there is no effusion, the differential signs furnished by percussion are still clearer. It is no longer dullness which is obtained; it is a sub-dullness, often but slightly pronounced besides it presents nothing of regularity in its situation; it is disseminated in spots: by the side of regions more or less resonant, you will find others which give the normal sound, and contrary to what takes place in ascites, the intestinal sound is never lost in the inguinal regions. Palpation reveals a general lack of abdominal resiliency, (*empâtement génèral du ventre, une rénitence spéciale*), contrasting with the normal suppleness; it seems somewhat as if all the viscera formed only one single mass, which could be moved between the two hands from one side to the other, like a semi-solid tumor entirely filling the abdomen. Often also, there are to be seen inequalities running across the abdomen, protuberances resulting from the presence of false membranes, and the cohesion of the intestinal convolutions. When finally the peritonitis results in effusion, an obscure fluctuation at the interior part of the abdomen, becomes perceptible; but you never have fluctuation of the ascitic type, not more than the undulation of liquid. In such case the peritoneal friction is obtainable on auscultation. This sign, to which Bright attached an extreme value, fails too often for one

to invoke it with confidence. Its existence reveals very surely the presence of false membranes, and therefore peritonitis; its absence proves, nothing pro or con.

Do you wish, that for this didactic exposition we should give a clinical demonstration? We will go to No. 9 of St. Charles ward, and we will find there a man thirty-five years old, who presents, with a profound cachexia, a chronic peritonitis, with the best characteristics. It is a variety of large abdomen which we observe here, and it is in this alone that it can be confounded with ascites properly so called, for we can seize in this individual all the differential signs which I am about to expose to you; a moderate and regular tumefaction of the belly, without any marked median prominence; a general sub-dullness, in places reaching to absolute dullness, resonance on a level with the two lateral colons; a lack of resiliency, resistance, and characteristic, knob-like projections on palpation, a displacement of the whole visceral mass from one side to the other, as if the whole contents of the abdomen were transformed into a single homogeneous tumor; fluctuation very obscure in the hypogastric region, without undulation, without flowing of the liquid; such are the physical signs which, without other examination, disclose in a positive manner the existence of a chronic inflammation of the peritoneum. Confusion of the two is impossible; they approach each other in only a single respect—they both have large bellies. Profit by the chance which places at the same moment under your eyes these perfect types of two different lesions; examine attentively and repeatedly these two individuals, and you will preserve in your grasp the ineffaceable impression of the very distinct sensations which characterize these two pathological states of the abdomen.

Finally, to leave behind us no chance of error, we ought to consider another circumstance, which, though

exceptional, ought not to be forgotten in clinical valuations of this kind. In certain rare cases, chronic peritonitis induces a liquid effusion so abundant as to mount up to the umbilicus or beyond; if then there exist no adhesions between the two peritoneal surfaces, the liquid is as free and as mobile as in ascites properly so called, and a superficial examination might result in overlooking the phlegmasial lesions hid in rear of the effusion. Professor Bennett (of Edinburgh), has reported an instance of the kind, relating to a scrofulous girl of seventeen. The abdomen greatly developed, gave on exploration all the physical signs of simple ascites. But, when under the influence of an appropriate treatment, an abundant diuresis had been established, and the circumference of the abdomen had diminished three inches and a quarter; then there could be demonstrated on the right side the characteristic hardness of chronic peritonitis, and the diagnosis thus rectified, was verified some days later.*

I have thought of this instructive fact in examining our man with ascites, but in vain did I make him vary his decubitus to successively explore the different abdominal regions freed from liquid, it was impossible for me to seize upon any doubtful phenomenon which could suspend the judgment.

If, laying aside physical signs, we contemplate the morbid phenomena which, in our patients, are coincident with the abnormal abdominal development, we find in the study of these symptoms traits which usefully fill up this comparative examination.

Our tuberculous patient of No. 2, the one who is affected with ascites, has suffered from a rebellious diarrhœa, which appeared three menths ago, coincidently with his cough: this diarrhœa, which has been attended with at least four to five stools in the twenty-four hours,

* J. Hughes Bennett: Clinical Lectures on the Principles and Practice of Medicine. Edinburgh, 1859.

has persisted until to-day without intestinal pain, without colic—without any other painful sensation than the smarting, resulting from the irritation of the anal region. During the first week of his disease, this man had two attacks of vomiting—very bilious and abundant—since when, nothing more of the kind; finally, it is three weeks day after to-morrow that his abdomen has been swollen to such a degree, that his clothes have become too tight. Besides this, he has had no other abdominal symptoms.

Now, although chronic peritonitis is never a malady announcing itself with sounding steps, it does not fail to determine certain accidents more or less significant. Look again at our patient of No. 9. For two years he was tormented with abdominal pains, which have scarcely given him a few days respite; hardly had these pains begun to appear, before the functions of the intestine underwent derangement, and since then he has had constant alternations of obstinate constipation and abundant diarrhœa, the regimen all the time being the same. Some months later, when the abdomen had commenced presenting the first signs of that slow tumefaction which has brought it to the volume which you see in him to-day, vomiting appeared; rarely containing food, they have been generally bilious, and during four or five months they did not fail a single day. After this, they became less and less, and finally disappeared. These are the symptoms of chronic peritonitis; they are very different, you see, from those which our first patient presents. Not only have all these phenomena been wanting in him, but the sole one which he has experienced—this diarrhœa, arising at the beginning and persisting to the same degree for three months—is foreign to the ordinary symptomatology of slow inflammation of the peritoneum.

To resume, our tuberculous patient has not chronic peritonitis; his abdominal effusion is not the work of a

peritoneal inflammation, which has, as an exception, produced an abundant effusion of free and mobile liquid in the serous cavity; this effusion is an ascites pure and simple, the relation between pulmonary tuberculization and chronic inflammation of the peritoneum is not here established; the abdominal accidents of our phthisical patient have another cause; it is this cause which we ought now to seek. But the chronic peritonitis having now been only eliminated, this research is no longer difficult. When a patient presents multiple morbid developments, it is always proper to examine at first, before every other hypothesis, whether or not these accidents can not all be attributed to a simple pathological cause, spreading effects to many parts of the organism. This, gentlemen, is an important rule of the clinic; it is only after being convinced of the impossibility of this complete subordination, that the physician ought to decide upon invoking different causes for the divers symptomatic groups beneath his eyes.

Making an application of this general principle to our particular case, I seek in the tubercular diathesis with which the patient is affected, the single cause of these pulmonary and abdominal accidents; and since the chronic peritonitis is out of the question, I am drawn to admit here another tubercular abdominal determination, capable of producing ascites by the embarrassment of the portal circulation. Now two lesions alone can fulfill the required conditions; the peritoneal tuberculisation, which, without inflammatory accidents, brings about ascites by compression of the original radicles of the portal vein, exactly as the sub-arachnoidean granulations produce dropsy of the ventricles of the brain by compression of the roots of the veins of Galen; or else a general tuberculisation of the mesenteric ganglions which act in the same manner upon the trunks of the mesenteric veins, and

perhaps upon the trunk of the portal vein likewise, if the ganglionic chain is altered up to the hilus of the liver. The age of the patient is scarcely favorable to the idea of an isolated mesenteric tuberculisation; on the other side, I have never seen extensive peritoneal tuberculisation without an homologous lesion of the mesenteric ganglions, consequently I think that the two orders of alteration cöexist in our man, and that his ascites is the result of the simultaneous tuberculisation of peritoneum and mesenteric ganglia. It is useless to add that I am assured of the integrity of the liver and spleen by repeated percussion and palpation.

The preceding propositions do not yet exhaust the requirements of diagnosis; our patients presents a considerable œdema of the inferior members; the infiltration likewise occupies the scrotum; it commenced to show itself upon the inferior part of the abdominal wall: there is then a dropsy, the cause and mechanism of which, ought to be carefully studied; the coëxistence of ascites and œdema of the extremities is very frequently observed, and this symptomatic combination is to the practitioner at the bedside a fruitful source of error. The best mode of preservation against it is to restrain one's self in exploration to a rigorous method, by which the divers possible eventualties may be passed in review, commencing with those which are oftenest realized.

I have thus first of all examined the heart of this man: the volume, beats and sounds, all are normal; this is not one of those cases where the results of exploration give any room for uncertainty; all is precise, all is positive, the heart is absolutely sound and has nothing to do with the œdema of the lower limbs.

Our patient is profoundly cachectic; he therefore presents the pathogenetic condition most favorable to spontaneous venous coägulation—thrombosis (*caillots cachec-*

tiques marastiques de Virchow). I have examined the state of the popliteal veins and the femoral, and discover no obliteration—their courses are perfectly clear up to the crural arch.

So the heart is sound and the veins are permeable up to the iliacs, and if the dropsy of the members is due to a mechanical cause, this cause ought to be seated in the abdomen. But, considering the general state of the patient, can we not admit one of those cases of dropsy, called cachectic for good reasons, which, without any mechanical obstacle, become developed under the combined influence of alteration of the blood and enfeeblement of the propelling powers which put it in motion? I think not, and this for three reasons. The patient had scarcely quit his bed when his limbs commenced to swell; under these circumstances there is no reason why the œdema should first show itself in the inferior members; furthermore, it remains limited, although very considerable; now these cachectic dropsies, which are observed so often in the last periods of cancer of the stomach for example, tend all to generalize themselves in bringing about a moderate tumefaction of the tissues; finally, and this is the reason *par excellenee*—there is upon the abdemen of this man, a venous net-work abnormally dilated, the trunks of which, starting from the inguinal region, run up to the inferior portion of the thorax; this disposition of the superficial venous circulation reveals, to a certainty, an identical modification of the deep circulation—it is an enlargement of the collateral circulation of the returning blood, destined in a measure to supplement the insufficiency of the direct route. Now, the establishment of a compensatory circulation is not observed, except in dropsies from a mechanical cause.

Our method of elimination rigorously followed, brings us now to these two important conclusions: the œdema

of the inferior extremities has, as its cause an obstacle to the return of the venous blood, and as this obstacle has its seat in neither the heart nor the members, it follows necessarily that it should be in the abdomen. Another step and we will reach our end.

In certain cases analogous to this we study, a dropsy of the extremities, there is no other cause recognizable than the compression exercised upon the inferior vena cava by the liquid effused within the abdomen; then, invariably, the ascites precedes the appearance of the œdema by many days. Against this interpretation, there arise here, many grave objeetions. The chronological connection between the ascites and œdema, leaves nothing to be desired; these accidents are recent, (three weeks), the recollection of the patient is very precise, and it seems from his repeated affirmations, that the dropsy of his belly preceded that of his members by only forty-eight hours. Then the ascites, is not, in truth sufficiently abundant to enable us to accept it as a pathological cause; the abdomen is not full, as I have already told you, the extensibility of the anterior wall is far from being exhausted, and the eccentric pressure can still continue at its expense, so that it is difficult for me to conceive that it can produce in the inferior vena cava a difficulty sufficiently great to bring about the œdema which we observe. I know very well, that our patient is cachectic, and that a cause powerless in another individual, can have its full effect in a soil thus prepared, but this consideration can not weaken the value of the preceding objection; hardly forty-eight hours separate the appearance of the two dropsies, consequently the ascites was scarcely beginning, before the members commenced undergoing infiltration: it is by this, exceedingly probable that another cause has been at work. Finally, when an abdominal effusion is sufficiently great to bring about by compression of the vena

cava an œdema of the inferior members, there is frequently to be observed, I will not say always, a phenomenon which deserves to be noted; this compression causes itself to be equally felt upon the whole length of the abdominal venous trunk, above as well as below the entrance of the renal veins, the tension increases on the venous system of the kidneys, and if this increase be at all notable, the urine becomes albuminous; this is one of the most simple forms of albuminuria of the mechanical order. Well, in our patient the œdema of the members is enormous, it has invaded the scrotum and the inferior region of the abdominal wall, the impediment to the circulation in the vena cava, is then considerable, as may be judged of by the rapid development of the collateral circulation, however, the urine does not contain albumen. It is then probable that the compressing cause does not act above the point where the renal veins empty, its action is limited to the inferior segment of the vena cava, and a compression so limited, can not be the cause of an ascitic effusion, the pressure from which is general and uniform.

Isolated, none of these circumstances, observe you, has an absolute value, but united, they acquire in my eyes a positive signification, and I cannot attribute the œdema to the mechanical influence of the ascites.

There are, hence, but two possibilities; certain diseased ganglia compress the vena cava below the renal veins, or a cachectic thrombosis has obliterated either the vena cava in the same portion, or the two iliac veins. Between these two conditions, equally probable, I declare that it is equally impossible for me to pronounce. Although very different, these two causes have in space identical effects, and as we can only judge of the cause by the effects, we lack a criterion by which to judge between the one and the other: the pathogenetic diagnosis, cannot go

farther. Moreover, this uncertainty will not be of long duration, the death of the patient is imminent.

I have spoken to you repeatedly about the collateral circulation developed in this man; the patient with chronic peritonitis, in No. 9, offers us an example still more perfect of this salutary phenomenon, and I believe I shall be able to give you in this subject, certain useful semiological indications. You recall the fact, that the peritonitis, the début of which probably dates back three years, has terminated by transforming all the contents of the abdomen into a single solid mass, which presents its maximum of volume and consistence in the hypogastric region; such is the generalisation of the disorders, that this mass descends even into the pelvis, and its inferior portion can be perceived by rectal exploration under the form of a round and hard body, which without any line of demarcation is continuous with the hypogastric mass. The superior regions of the abdomen, save the umbilical and sub-umbilical regions, have alone preserved a certain degree of suppleness, which is, however, but relative. Under such conditions, the mechanical effects of peritonitis ought to be exactly like those of a large abdominal tumor of medium consistence, which would exercise a strong compression upon the vertebral column in the pelvic and hypogastric regions. It is just this which has taken place. The inferior members are the seat of an immense œdema, the distension of the integuments is at its maximum, the scrotum, the abdominal walls anteriorly, laterally, and in rear, are intensely infiltrated, and this parietal dropsy mounts on each side up to the level of the nipple. It is clear that the circulation is nearly completely suspended in the inferior vena cava, because of the compression exerised upon this vessel by the modified abdominal mass, and as the urine is not albuminous, it is probable that the maximum of the compression is

spent upon the inferior segment of the vein—which is in harmony with the results of direct abdominal and rectal exploration. These disorders dating some time back, the collateral circulation has attained its full development, and you can see over the inguinal region, and upon the anterior wall of the abdomen and thorax, a magnificent venous network; it is continuous upon its sides with a not less rich enlacement which occupies the flanks, the lumbar regions and the internal aspect of the axilla; the superficial lateral thoracic veins, which exhibit themselves at this point, are in the number of their branches, the most voluminous of this truly admirable tracery. There is here, gentlemen, the completest type of this complementary circulation; if the inferior vena cava were constricted with a cord, you could not have a richer net work; every thing is dilated, the utmost possible limits are attained.

The development of the superficial abdominal venous inosculation, is always consecutive, or at least parallel to a similar work in the deep veins which escape the view, and one can without any fear judge one by the other. This superficial network of the abdomen is observed under three different circumstances: impediment to the circulation in the vena porta; impediment to the circulation in the inferior vena cava; impediment to the circulation in the superior vena cava. Here are the differential signs which will permit you to distinguish between these three conditions solely by an examination of the venous anastomosis.

If it is the portal vein which is the cause, the collateral circulation will be produced principally, if not exclusively, by the median veins; it is in the space embraced between the point of the ensiform cartilage and the pubis, that the most developed vessels ramify; describing scarcely any curves, they run rectilinearly throughout

their whole tract, are symmetrical and correspond to the deep epigastric and internal mammary veins. In some cases, these median veins are alone the bearers of the complementary circulation, and they can then acquire a volume greater than that of a goose quill; ordinarily, however, there are in the meantime observed smaller anastomotic veins forming an interlacement of large polygonal meshes, and which passing away on each side from the external border of the recti muscles, encroach more or less upon the sides of the anterior abdominal wall. But this network becomes by degrees attenuated, as it gets more remote from the median line, the veins become less perceptible, and it is rare that any branches are found beyond a line touching the nipple. Thus then, large straight median trunks, lateral anastomoses slightly or not at all developed, such are the easily comprehended topographical characteristics of the complementary collateral circulation of the vena porta. Let us add, that in these veins, the blood circulates from above to below, so as to be brought down into the crurals and external iliacs.

For the vena cavas, the dispositions are otherwise, in truth they are inverted. It is upon the sides that there are the principal channels. The inguinal and hypochondriac regions, and the sides of the thorax up to the clavicles are covered with a net work of more or less large meshes; these collateral vessels also occupy the median regions, present themselves rather under the reticular form, and do not separate into distinct rectilinear trunks as in the other type; finally, if the impediment be at all durable, there will be seen to appear in the flanks, in the lumbar regions, and upon the internal aspect of the axilla a rich lateral anastomosis, upon which are shown certain rectilinear veins of more considerable size, like unto the superficial lateral which I have shown you in our patient.

This lateral network, which for greater precision I will call abdomino-axillary, is foreign to the supplementary circulation of the portal vein.

In the preceding description, I have not distinguished between the network of the inferior vena cava, and that of the superior cava; it is indeed, only to be considered that in the topographical dispositions, the collateral network is the same in the two cases, at least when it is once formed. If one attends to its development, he will observe an important difference: when it is the vena cava ascendens which is impermeable, the vessels become dilated from below upward, it being in the inguinal regions that the compensative network first appears; when it is the vena cava descendens which is compromised, the collateral avenues open from above below, the initial network showing itself in the clavicular and axillary regions. But even when the mode of the dilatation of the vessels has not been observed, it is always easy to distinguish the complementary network of the two vena cavas by perceiving the course of the blood. When the obstacle occupies the inferior vena cava, it is essential we see on analysing the matter, thal the blood ought to be brought back indirectly into the superior vena cava and from thence into the heart; it therefore circulates from below above into the large collateral superficial veins: if it is the vena cava superior which is obliterated, it is necessary that the blood should be emptied into the abdominal vena cava for it to arrive at the right auricle; it therefore circulates from above to below into the collateral veins.

If the compression, or obstruction of the superior vena cava is limited to a point below the mouth of vena azygos, which is rare, it soon produces a supplementary thoracic venous network, in which the blood circulates from above

to below, but there is not always the superficial abdominal network.

To sum up, the topographical disposition distinguishes the plexus of the portal vein from that of the vena cavas; and the course of the blood differentiates between the network of these two vessels. Nothing can be simpler than the clinical apprehension of this last circumstance. Compress in the middle of its course one of the largest of the venous trunks, and the upper termination of it becomes fainter, and the inferior termination swells up, if the blood circulates from below upward; in the opposite case, it is the superior segment which will become turgescent whilst the inferior diminishes in volume. In our man, this practical test upon the great lateral thoracic vein gives the clearest results; the axillary termination becomes obliterated, the abdominal end distends itself in an evident manner; the circulation plainly preceeds from below to above. When the anastomoses of the collateral veins are multiplied and the plexus in its entirety represents a vast polygonal, without rectilinear trunk to a certain length, the preceding rests mute: by reason of the anastomoses, none of the terminations of the vessels compressed are effaced; in this exceptional case, it is necessary to press the palm of the hand flat against part of the plexus and make the patient cough. If the blood circulates from below to above, the retrograde wave and the momentary stasis produced by the cough, distends the vessels situated below the hand which compresses them; they are plainly visible in the parts situated beneath, when the blood circulates from above to below, and the calibre of the superior vessels is not modified. You have seen me frequently repeat this proof upon divers points of the abdominal region in our patient, and always with the same results; under the influence of the shocks in coughing, the veins situated

above the region compressed, present a sudden and transient turgescence, because the progress of the ascending sanguineous current, is immediately impeded by the energetic expiration of the cough.

I have only taken into account for this clinical diagnosis, the signs furnished directly by the venous plexus itself; I think it is not necessary for me to add, that in case of an obstruction in the superior vena cava, one may observe in the superior members, the neck and the face, the phenomena of œdema, which are completely absent in the obstructions of the vena cava ascendens; beyond this, when the vena cava superior is impermeable on a level, or above the point of emptying of the vena azygos, all the blood passing by the vena cava abdominalis, the pressure in this vessel becomes enormous, and because of the difficulty of depletion of the renal veins, the urine is often albuminous. I have already once seen this phenomenon which Duchek has likewise observed.

Thus much said upon this point of semiology, we proceed to complete the history of our second patient, for there are attached to him, many interesting considerations. There is here a man of thirty-five years, in whom a chronic peritonitis has very slowly advanced to the production in three years of the frightful disorders which you are cognisant of; but with these phenomena, which for the most part are of a mechanical order there coincides a radical degradation of the organism; the strength is gone, the emaciation is complete, the face has the earthy tint of cachectics, and for this reason, before any other examination, it is already evident, that it does not proceed from a simple chronic peritonitis. The inflammation of the abdominal serous membrane, is very certainly connected with a diathetic affection, of which the marasmus is the direct expression. Is it tuberculous? Is it cancerous? This is the only point which remains to be examined.

If we had nothing to enlighten us but the abdominal phenomena, the question would necessarily remain undecided; at the most, in the absence of hereditary antecedents we could argue from the age of the patient, and the greater frequency of tubercular peritonitis, to incline towards this last diathesis. But the response being sought, we will demand it of the lungs, and they will give it us, I think, precisely and categorically.

Percussion furnishes on the two sides, at places irregularly disseminated, a notable diminution of sound, the appreciation of which becomes very clear, by a comparison with the resonant parts remaining; on a level with the mediastinum the sound is normal, and the vocal vibrations everywhere preserved. There is not then in the chest of this man, either a tumor or effusion, and the subdullness (submatité) diffused in the two lungs, can signify nothing else than a uniform impermeability diffused throughout the pulmonary parenchyma. On auscultation, what strikes you at first is the complete absence of râles; there is nothing of the sort, not a single one. But throughout all the chest, the respiration has a character of rudeness which is very remarkable, and upon the right side on a level with the inferior angle of the scapula, this rudeness becomes a bronchial souffle, there is here bronchophony. To this are the physical signs limited; for the rest, there has never been any hæmoptysis, to-day there is still a cough, frequent but not paroxysmal, it is dry, absolutely dry; there is no expectoration, although the pulmonary accidents have been contemporaneous with the peritonitis. These accidents have been two in number only; the habitual cough of which I have spoken, and an increasing dyspnœa, which does not permit the patient any other position in his bed, than that of sitting up. The heart is in every respect sound. The case is far from being clear; we will, however, try

to draw something from this badly defined situation. However, little pronounced they may be, the physical signs denote positively, the existence of indurations disseminated in the two lungs; the condensation is at its maximum on the right, at the point where one perceives the souffle and the bronchophony. The history of the case proves besides, that this lesion is ancient, and that it has had a slow progressive march. On the other hand, he has never had spitting of blood, never any expectoration, and although the cachexia and the marasmus have arrived at their maximum, there exists no râle, nor any sign of softening of the pulmonary tissue; for these reasons, for the last especially, I think myself authorized in rejecting the idea of a tuberculous lesion, and the exclusion made, I naturally arrive at the conclusion that we have to do with a cancer of the lungs. Despite the value of the preceding reasons, I would have hesitated to formulate an affirmative in the presence of a case so difficult, and have maintained a prudent reserve, if I had not established the existence in our patient of a symptom which is regarded as an important sign of cancerous lesions of the chest.

In the left sub-clavian region, and mounting along the sterno-mastoidean border, this man presents five or six ganglions of the volume of a small walnut; these ganglia are not only tumefied, they are indurated, and seem to roll under the integuments like small balls. On the right, the same lesion is also manifest, but it is here less advanced. This symptom, which to a certain extent is valueless in the infant, acquires a very great degree of value in the adult, as a sign of thoracic and intra-thoracic cancerous productions, and many a time has the autopsy verified the diagnosis which had been principally founded, if not entirely so, upon the engagement and the induration

of the cervical or axillary ganglions. This phenomenon has dissipated my hesitation, and I admit, as I have told you, the existence of a pulmonary cancer, and consequently a chronic peritonitis of the same nature.

Cancer of the lung presents itself under two forms of unequal frequency. The most ordinary one, is in more or less voluminous masses, which occupy the whole of a lobe, and inwards also the mediastinum; it is furthermore, often the case, that it is in this last region that the morbid formation begins, and the lung becomes ulteriorly affected either by a simple compression, or by a real pathological invasion: but, however it may be with varieties of the second order, this first form of cancer is characterized by its being disposed *en masse* whence it results that the lesion reveals itself clinically by the signs of the intra-thoracic tumors. In the second form, which we call the diffuse form, the cancer is deposited in the pulmonary parenchyma, in more or less numerously disseminated nuclei; there is then no sign of a tumor, these are simply signs of condensation and partial induration in the lungs. It is this diffuse form which we find in our patient, it is this, the diagnosis of which offers the most difficulties. In fine, it reposes entirely upon the fact of a condensation partial and disseminated, which cannot be attributed to any other more common lesion. It is what has been already expressed by Stokes, in one of the conclusions of the remarkable chapter which he has devoted to cancer of the lung. The existence of a cancerous disease, he says, can be suspicioned, when there are evident signs of simple solidification, without signs of pneumonia or tubercles*. The knowledge which we to-day have of pulmonary sclerosis, introduces a third restriction into this otherwise very just proposition of the celebrated Dublin professor.

*Stokes, Diseases of the Chest, Dublin, 1837.

The profound cachexia of our patient comes in aid of the diagnosis, but it is well to know that this fact often fails us; the frequent absence of marasmus and the straw-colored tint, and the sometimes very great rapidity of its march, are two important traits of pulmonary cancer under its two forms. Carswell has reported the history of a young man of twenty-five years, who, six weeks before his death, still did active duty as a soldier.* Entering the hospital for a difficulty of respiration which he had never complained of up to that time, every symptom he presented was an increasing dyspnœa, with a little cough which brought about the expectoration of a mucus. Without emaciation and without hectic fever, he succumbed to a slow asphyxia at the end of the sixth week. Great masses of medullary sarcoma infiltrated the two lungs.

I have presented to the *Societe Anatomique*, the viscera of a man whom I had observed at the *Hopital Beaujon*, in the service of my lamented master, Malgaigne. For a long time previously affected with a cancer of the kidneys, this individual entered the hospital for profuse hæmaturia; he had never experienced any trouble on the part of his lungs. One day we found him a prey to marked dyspnœa, and some days later, he died. The kidneys were transformed into encephaloid tissue, and the lungs contained a great number of nodules of the same nature.

But the most remarkable example of the sudden rapid march of the pulmonary cancer, is certainly that which I saw in 1861, in a patient of the same hospital. This was a mechanic working on the railroad from Paris to Corbeil. The evening of his entrance into the hospital, he was in good health, only to his astonishment, having for a couple of days had his breath a little shorter than

* Carswell, Cyclopædia of Practical Medicine, art. Scirrhus.

usual. On that day, in the forenoon, he conducted a train from Paris to Corbeil. Up to Juvisy all went well, nothing unusual happening; arrived at Corbeil, this man was aphonic, and on the morrow, it was with an extinguished voice that he gave me the preceding details. To the aphonia there was joined dysphagia, and I found under the left clavicle and descending even to the nipple, an enormous dullness, whilst auscultation showed in the same extent an almost cavernous bronchial souffle and the resonance of a voice more akin to pectoriloquy than ordinary bronchophony.

Two days later, he had œdema of the left upper limb, and a week after his entrance, to a day, the patient died. An enormous mass of encephaloid tissue occupied the upper part of the anterior mediastinum; the right bronchus and the upper division of it, traversed the morbid mass which had assimilated to itself, the entire upper lobe of the lung. It is clear that the pathological work went back to an ancient date, but the accidents appreciable at the bedside arose with a frightful suddenness, their duration having been eight days.

In certain cases, the diagnosis is facilitated by the knowledge of an operation which the patient may have previously undergone, or by the existence of a cicatrix externally, which should furnish the occasion of a special *anamnestique* investigation. Martin (of Jena) performed ovariotomy for an ovarian tumor of malignant nature; contrary to what is ordinarily seen in such cases, the patient recovered; a year later, she was taken with dyspnœa and rapidly died. The cancer had grown again in the lungs, and there, no more than in the ovary, did it bring about a special cachexia. The diagnosis was made by a knowledge of what had been the characteristics of the ovarian tumor.*

* Martin: Eirstock's Geschwülste, deren Erkeuntniss und Heilung, etc. June 1852.

Twice heretofore, at a year's interval, likewise replacing here Professor Natalis Guillot, I have arrived at an exact diagnosis, having founded it upon the existence of old cicatrices. The first case was that of an old woman, who presented a vast pleural effusion of the left side, and an intense dyspnœa, and from whom there had been removed the breast of the same side some years previously; the emaciation was extreme, but her countenance had nothing of the characteristic yellowish tinted aspect. Founding my opinion upon the anterior operation, I admitted the existence of cancerous nodules in the lung, with symptomatic effusion, and some days later, I could verify this diagnosis, many nodules occupying the sub-pleural tissue. The liquid effused was pure serosity, without any admixture of blood. The second case presented under similar conditions; however, there was no pleural effusion, and the lesion of the pleura revealed nothing but a very severe thoracic pain, and great friction sounds persisted until the death of the woman, that is to say, for a dozen days. For the same reasons as given awhile ago, I announced the existence of a cancerous lesion of the lung and the left pleura, and the necropsy showed small nodules disseminated in great numbers beneath the diaphragmatic and pulmonary pleura. They were also found in the deep layer of the costal expanse. The pulmonary parenchyma only contained a few; the lung and the right pleura were sound.

To resume, gentlemen, pulmonary cancer *en masse* reveals itself by the signs of the intra-thoracic tumors; once the existence of a tumor admitted, it is a question of differential diagnosis between the divers productions which can occupy the pectoral cavity, and notably between aortic aneurism and cancer. As for cancer of the diffuse form, you ought never to count upon recognizing it, except by a union of those considerations which have

guided me in the actual case. A solidification, diffuse and persistent, with emaciation, and without signs of softening, is the point of departure and foundation of the recognition: the persistence of the lesion eliminates all the acute diseases; its diffusion eliminates chronic pneumonia; the emaciation and failure of strength eliminate the diffuse indication of cirrhosis or pulmonary sclerosis; the absence of softening under these conditions definitely eliminates tubercles. The engagement and induration of the cervical or axillary ganglions, the presence of an external cancerous tumor, the traces of an old operation, and finally, the pale yellow tint, are sometimes valuable auxilliaries to the judgment; but all this can fail. Note also that one of the elements of diagnosis by exclusion, the steps of which I have indicated to you, can be wanting: this is the emaciation. In the case of a rapid progress, it does not—so to speak—have time to produce itself, and the difficulties then attain the limits of the possible.

After an interval of some days, the history of these two patients was completed by a post-mortem examination. In No. 2 the lungs were riddled throughout their whole depth, with small tuberculous caverns; the softening had been general. The abdomen was half full of limpid serum; there was no trace of chronic peritonitis, nor of false membranes, nor adhesions, nor injection, nor opacities of the serous membranes. Neither did there exist any peritoneal granulations; the lesion was confined to the mesenteric ganglions. All, without exception, were more or less enlarged even to triple their volume; all had undergone strumous degeneration, and they gave the mesentery a characteristic chestnuty (*marrouni*) aspect. The crural and iliac veins, and the inferior vena-cava, were free; they contained no clots; but upon the inferior segment of the vena-cava, beneath the

renal veins, there was visible a ganglion directly astraddle the vessel; our pathogenetic interpretation of the œdema of the lower limbs was by this justified. But this ganglion was one of the least voluminous; and if its compressive action had not been aided by that of the ascitic liquid—especially if it had not acted upon a profoundly cachectic individual—this mechanical condition would not have sufficed to bring about the dropsy of the members. The liver, the spleen, the kidneys and the heart were normal.

In the patient of No. 9 we have found a chronic peritonitis of the most remarkable kind: there was a small quantity of a suspicious looking liquid in the hypogastric region, and very few adhesions with the anterior abdominal wall; but all the viscera, united one with another by false membranes—many centimetres in thickness—formed a single homogeneous mass; they were incrusted in the phlegmasic exudation to such a degree, that the walls of the stomach and intestines were entirely confounded with it; only the cavities of these organs appeared open under sections made. The liver, the spleen, the kidneys, intact in their proper structure, united in a body also along with this enormous mass, which descended even down into the recto-vesical cul-de-sac, as the rectal exploration had indicated. Upon the surface of a section embracing at the time false membranes, and the walls of the hollow viscera, there was seen everywhere numerous small nodules of a yellowish white color. The mesenteric ganglia were augmented in volume, but less than in our other patient; the surface of the section was not normal—there was found here and there a whitish, somewhat soft substance, which formed the nuclei of the false membranes, but the most general alteration was a black discoloration, a pigmentation most plainly pronounced.

The pleura were intact and contained no liquid. The surface of the lungs presented nothing abnormal; but longitudinal slices brought to view in the interior of the parenchyma, nodules in great number; the largest were of the size of the end of the thumb; the smallest attained the dimensions of a large hazel-nut, Every reservation made regarding the nature of these nodules, their dissemination in the two lungs, accounts perfectly for the dyspnœa and phenomena of auscultation and percussion presented by the patient; the interpretation had been just—it was truly then a condensation and diffuse induration which had been recognized: the physical diagnosis was exact.

On a section being made, all these nuclei had the some aspect: there were found upon certain points the semi-solid substance of the abdominal ganglions, but that which most prevailed was the pigmentation. Struck by this analogy, I regarded it a little more closely, and I then soon perceived that these small masses, independent of the parenchyma, were no other than the intra-pulmonary ganglions; all had become affected, without exception: they could be followed in their divergent ramifications from the roots to the periphery of the lung. The ganglia of the roots were altered on each side in the same manner, but they were not united *en masse*, and could exercise no compression upon the vessels of this region. The median ganglia situated on a level with the bifurcation of the trachea, were sound: the cervical ganglia, the hypertrophy of which had been established during life, had, on section, the same characteristics as all the others.

Thus, then, in that which concerns the peritonitis, the diagnosis was rigorously exact; in that which touches the lungs, it was just with reference to the topography and the physical effects of the lesion: was it likewise

established as to the nature of this last? The ganglionic lymphatic system was alone interested, which was not very favorable to the idea of cancer. But the individual was thirty-five yerrs old, and the pigmentation was general in all the ganglions; this would make us think of a form of melanotic cancer. Briefly, an examination with the naked eye could not determine certainly, and I submitted it to the decision of the microscope. M. Cornil could only demonstrate minute elements of tubercle in the false membranes of the peritoneum and in the ganglions; the lesion was purely ganglionary; there was no vestige of it in the parenchyma of the lung.

The nosological diagnosis had been erroneous; we had had to do with a tuberculous peritonitis and a ganglionary tuberculization. This deception took away none of their value from the preceding considerations touching the diffuse form of pulmonary cancer; it teaches us only that it is necessary to reserve a place for ganglionary phthisis in the eliminative consideration upon which we have reposed our diagnosis. By reason of the age of the patient, I did not dream for an instant, I avow, of the possibility of this alteration. Had the idea been presented to me, I declare that I should have squarely repulsed it. The physical signs could tell nothing: cancerous nodules or intra-pulmonary tuberculous ganglions —it was all one; there was always the same induration, the same diffuse condensation of the lung; the two symptoms the most characteristic of thoracic ganglionary tuberculization, to-wit: the accessions of cough, and paroxysmal dyspnœa, failed absolutely; with this form of tuberculization, chronic peritonitis is exceedingly rare; finally, the aspect of the sufferer seemed to demonstrate the existence of the cancerous diathesis.

All these remarks fall before the *fact*, and we cannot but accept the lesson for the future. This instruction is

multiple, the following propositions summing up the principal points: tuberculization of an isolated ganglionary character can exist in an invididual thirty-five years old, and coincide with a chronic peritonitis and a profound cachexia. When lesions of the intra-pulmonary ganglions have taken place, there are the physical signs of a disseminated condensation of the lung, precisely like those of cancer of the diffuse form. The ganglia of the roots, and the interior of the lung, can be considerably altered, without those which occupy the inferior part and the bifurcation of the trachea, at all participating in the lesion. It is likely, that to the integrity of these groups of ganglions, that the absence of the ordinary symptoms of bronchial ganglionary tuberculization ought to be attributed. Finally, the engorgement and induration of the cervical ganglions are unreliable signs of intra-thoracic cancer.

ART. II.—HOSPITAL MEDICAL COLLEGE OF VIRGINIA. CASE UNDER THE CARE OF HUNTER MCGUIRE, M.D., Professor of Surgery. Reported by JNO. M. UPSHUR, M.D., Richmond City.

Case No. 1.—*Stone in the Bladder—Operation—Death in two months from Pyelitis and Nephritis.*

Frederick L. M., æt. 9 years, from Halifax Court House, Va., has had symptoms of stone in the bladder for five years. The boy's figure is slight and small for his age. He is pale and his suffering unusually great. For the last two years he has passed through the urethra at intervals, varying from a few days to several months, fragments of a phosphatic calculus. In sounding him for stone, a small piece was felt in the membranous portion of the urethra, and pushed back into the bladder. His urine contains a large quantity of muco-pus, with a slight trace of albumen.

The case was an unpromising one, on account of the broken state of the constitution, from prolonged suffering, and the number of stones found in the bladder; but as there was no evidence of visceral complication, and after ten days of rest and careful preparatory treatment, the irritability of the urinary organs was greatly allayed, Dr. McGuire decided that he was entitled to the chances of a cure by lithotomy.

October 6th.—The ordinary lateral operation was performed, and the bladder found to contain two large calculi and the nucleus of a third.

The pieces which had been passed by the urethra were doubtless from this nucleus. The two large stones were crushed before they could be removed. They crumbled readily under the pressure of a small pair of lithotomy forceps, and the whole mass was then removed with the forceps, aided by the syringe and tepid water. The weight of the calculi was 2 oz. and ʒj. Loss of blood very slight; a dose of tinct. of opium in gum water was given and the patient removed to bed. No tube was introduced through the wound into the bladder, Dr. McG. having abandoned this practice since his first operation for stone.

8th.—Is doing very well: cheerful and free from all pain. Has nourishing diet and flaxseed tea.

10th.—Still improving; eats and sleeps well. Slight phosphatic deposit on the sides of the incision, for which, citric acid, given in the form of lemonade, was directed. Dr. McG. has found in similar cases, and in phosphatic incrustations in vesico-vaginal fistula, that this acid produces more certain and speedy removal of the deposit than any of the mineral acids.

14th.—The wound contracting and some water by urethra. The child's general health much improved. A small phosphatic stone passed through the wound to-day.

19th.—Wound nearly closed, and all of the water passing by urethra.

21st.—Has passed a sleepless night: pain in the left lumbar region; thigh retracted; constitutional disturbance; urine diminished in quantity and containing a large amount of pus.

22d.—Condition very much as yesterday; quantity of purulent matter increased—it constitutes more than two-thirds of the discharge from his bladder. Microscopical and chemical examinations by Prof. Joynes, shows that the sediment consists entirely of pus; urine very much diminished in quantity, but otherwise natural.

November 20th.—Local symptoms of pain over the kidney; great tenderness, and some distension in that region still exist. There is great emaciation and debility, with hectic fever. Occasionally, for a day his urine is free from pus, but generally it is found in large quantities. The quantity of urine is slightly increased.

Nov. 27th.—An abscess has pointed about the middle and outer part of the left thigh. This opened Dec. 1st, and discharged nearly a quart of very offensive matter. Death occurred Dec. 6th, exactly two months after the operation. Mind clear to the last; emaciation extreme. The treatment throughout a supporting one—iron, quinine, cod liver oil, brandy and the mineral acids having been employed at different times—anodynes at night—soothing applications over the renal region.

Autopsy.—The substance of the left kidney was found almost completely destroyed, scarcely more than a membranous sac, filled with pus and phosphatic concretion, was left in its place. The stone was about the size of a large almond, and occupied what had been the pelvis of the kidney. Several openings existed in the lower and back part of the sac, through which the pus had escaped, passing thence down the psoas muscle under Ponpart's

ligament to the thigh. The psoas muscle was almost entirely destroyed. At a point in the ant. abdominal wall, near the ant. inf. spinous process of ilium, and in the lumbar region, just above the crest of the ilium, attempts had been made by the pus to escape. Ulceration had destroyed at these points all the tissues except the skin, and this structure in the lumbar region was very much attenuated. The opposite kidney was enlarged, but otherwise normal. The bladder was smaller, and its coats thicker than natural. No trace of the wound made in the bladder or prostate gland could be seen. The wound in the perineum had healed and cicatrized.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

NEAR THE PLAINS, VA., January 31, 1870.

DEAR SIR: In January, 1868, I sent you an article upon the subject of "The Parturient Effects of Opium," which you intended to publish, but you now state that you did not do so because of your having lost several sheets of the manuscript during your movement of the Journal to Kentucky; you ask me to renew it. I cannot conveniently do so, as I retained no copy, nor is it at all necessary, after the excellent article on the same subject by Dr. P. C. Barker, of Morristown, N. J., published in your Journal of December ult., and taken from the Med. Archives.

The cases given in my communication were similar to those stated by Dr. Barker, and I was much inclined to the same opinion that he seems to have adopted, viz: that opium, in many cases,* had the direct effect of exciting the propulsive action of the womb; in this, how-

*I believe the Doctor has adopted this opinion without qualification.

ever, I was not positive; and am, upon more reflection, still inclined to doubt it.

I agreed with the Doctor more certainly in another particular, viz: that whilst opium has no power to check a regular physiological labor, it has great control over the abnormal spasmodic pains, that frequently precede, or accompany a natural labor. I stated a case to prove this, as follows: A young negro woman, pregnant the second time, had been suffering four days when I was called to see her, with supposed labor pains. These pains returned every few minutes, and the poor creature was nearly exhausted.

I found the womb very little descended, and the os opened to about the size of a dime. At every pain it could be felt under the hand like a firm round ball, but without downward pressure. As she was very costive, I ordered a dose of oil, and when this operated without any change in the pains, believing they were merely of a spasmodic nature, I administered chloroform, which, in a few minutes, brought on a sweet sleep, and an almost entire cessation of the pains for some time. This was followed by two or three moderate doses of morphine, which relieved her entirely, and in about a month after, natural labor supervened. As the morphine took effect, the os closed, and rose almost out of reach of the finger.

The only question with me, (and an important one), is this: did opium act favorably in the cases given, by exciting the expulsive power of the womb, as well as by relaxing the fibres of its cervix and os? Or did it act merely by relaxing the tonic and spasmodic action which prevented the physiological relaxation of those parts, and consequently the proper effect of the expulsive pains? In every case quoted by Dr. Barker and myself, the pains were severe but inefficient; and the os was not relaxed as it should have been. Did these severe pains

arise merely from the action of the circular fibres, or also of the longitudinal and oblique? If the latter, (and I thought it was so in some of my cases, if not in all), then the opium was not needed to arouse the action.

If opium possesses the positive power of exciting the expulsive actions of the womb, and at the same time of of relaxing the fibres of the cervix and os, then it is a perfect parturient, and should arouse the action of an indolent, exhausted, or relaxed womb. Will it do so, as ergot generally does? None of the cases quoted prove this fact: they are all cases of strong contractions.

In the communication sent you, I mentioned the fact that upon examining a number of authors upon anatomy, physiology and obstetrics, I found none of them had devoted more than two or three lines to the subject of the nerves supplying the womb, excepting Robert Lee, who in his midwifery, has devoted a long chapter to it, and showed by careful dissections that the womb was very largely supplied by the sympathetic system, and also by the sacral nerves; the latter seeming to be more largely devoted to the cervix and os.

My idea is this, that each physiological action of the womb is directed and controlled by certain branches of the sympathetic system of nerves. One set may regulate its ordinary secretions; another the menses; others the various offices of pregnancy; and others again its various contractions; but a separate set to each class of fibres, and for each separate action; and that its ordinary tonic actions are controlled by the sacral nerves. Also, that in a regular, normal labor there is a proper sympathy of action between all these different nerves; so that whilst some are producing proper contractions, others are producing the relaxation of the cervix and os. I have often observed that the more decided the expulsive pains become, the more rapidly the os relaxed.

I do not believe that this relaxation is a "passive operation;" nor that it is produced by the overpowering effect of the contractions of the longitudinal and oblique fibres, as suggested by Dewees; but that it is a positive physiological action, like the relaxations of the vulva which precede labor. But as the regular tonic action of the womb is sometimes injured by exhaustion, so, I suppose, this softening and relaxation of the os and cervix may be prevented by abnormal tonicity, or by spasm in the sacral nerves. If opium really possesses the positive power of so decidedly exciting the contractions of one set of fibres, and the relaxation of the other, as believed by Dr. Barker, would it not be an efficient abortive agent? And yet I doubt if any quantity of opium would produce abortion in the 5th, 6th, 7th or 8th month.

I beg you to understand, sir, that these are mere suggestions, and that I pretend not to scientific accuracy; and as these points are to be settled by further investigations, I earnestly recommend them to the attention of Dr. Barker. Very respectfully,

Your obedient servant,

Rob. E. Peyton.

Dear Sir: Since my last letter to you, I have had a case of midwifery, the phenomena of which bear upon the subject of that letter: I deem it, therefore, my duty to send it to you for what it is worth.

On the morning of the 14th inst., before day, was called to see Mrs. K., (residing at some distance), in labor with her first child. She is a stoutly built, well formed and healthy young woman, eighteen years old. The labor had commenced during the night of the 11th. When I arrived, (about 8 o'clock, A. M.) I found the mouth of the womb perfectly relaxed, and near three inches in diameter. The head of the child was resting

with the vertex upon the upper edge of the pubis, and the pains were weak and infrequent. The condition of the patient's system was perfect.

I waited patiently until 6 o'clock in the evening, at which time the condition of things was very nearly the same as in the morning. Nothing seemed to be wanting but expulsive pains, of which I could not discover that she had any. I considered it a first-rate case for the trial of opium as an expulsive agent; and was about to administer it, when of a sudden the pains became stronger and more frequent, the intervals changing from five to fifteen, and even thirty minutes, to from one to five minutes. Thus they continued to near 7 o'clock, when they again became slow; the intervals ranging from five to fifteen minutes.

At 7 o'clock, the vertex seemed to be on a level with the top of the pubic arch, and the waters began to protrude a little.

Thinking there might be another change for the better soon, I waited until ten minutes past 8 o'clock, when all things remaining as they were at 7, I administered thirty-three drops of laudanum. In thirty or forty minutes, instead of the pains becoming stronger and more frequent, they became weaker; and the intervals changed from five to fifteen minutes, to an average of fifteen minutes. The patient said that she was much more comfortable and slept sweetly between the pains: and so continued until midnight.

From midnight until about 3 o'clock, P. M., the 15th, there was but little change, save a gradual increase in the pains; yet, the head did not perceptibly advance. But at that time (3 o'clock) the expulsive pains commenced, and before 4 o'clock the child was born, entirely uninjured, as well as the mother, by the tediousness of the labor.

In this case I was struck with a fact which I had frequently noticed before, but do not recollect its being mentioned by any author, viz: that the true expulsive effort is attended with less pain *in the womb itself*, than are the preceding contractions. They may produce more pain *in other parts*, (in unnatural or difficult labor), by the violence with which the head is forced upon them; but in the womb itself there seems to be less pain.

Nothing was administered in this case but a dose of oil during the second night, the dose of laudanum and a little chloroform once, which produced sleep, about two hours before the birth of the child.

Very respectfully, yours, Rob. E. Peyton, M.D.

Warrenton, Va.

I have used the hydrate of chloral extensively in my practice for two months past. I procured it for trial in the following case: A lady of middle age, having previously a robust constitution and fine intellect, underwent a surgical operation for the removal of nasal polypi and other fleshy growth, obstructing the posterior nares. The operation was performed in December, by Dr. Donaldson, of Baltimore, and occupied nine days in its completion. No anæsthetic being taken and the instruments used for an hour or more daily, until the very difficult operation was concluded, the result was irritative fever, accompanied by acute mania: when I first saw this case, in the middle of February, it was thought by her attendants to be an attack of typhoid fever. An anodyne and tonic course of treatment was agreed upon, but opiates in all forms and in full doses failed to allay the paroxysms of raving delirium, and only appeared to aggravate the distressing insomnolency, which was also the case with cannabis indica and hyosciamus. I therefore re-

solved to try the hydrate of chloral. After some delay and difficulty, it was procured for me by my friend, Dr. D. B. Philips. 15 grains were administered upon waking from a short, restless nap, at the usual hour—three o'clock A.M., at which time opium had been repeatedly used in vain. Immediately after the first dose, the terrible violence of the paroxysm subsided. The dose was repeated in twenty minutes, and in five minutes thereafter, a sweet sleep of some hours duration was produced. This case has exhibited the sedative and soporific powers of the remedy in a very striking manner: for two months it has been administered daily, and the effect continues as at first: no tolerance has been established, no disagreeable symptom whatever has arisen from its use, and the most violent paroxysms have been readily controlled. It seems to me that this remedy might supersede the use of the straight-jacket in the treatment of the insane. Though, in a recent correspondence with Dr. F. T. Stribling, superintendent of the lunatic asylum of Staunton, Va., that able and experienced physician spoke rather discouragingly of its use with the insane, though he gave me none of the details of his experiments.

The second case that came under my observation was that of a stout, able-bodied, middle-aged man, who had drunk hard and was financially embarrassed. He was suddenly seiezed with violent mania, and opiates produced no impression whatever. From twenty grains of the hydrate he slept nine hours.

In a case of cancer of the uterus, in which one grain of morphia had to be taken every hour—day and night—to relieve the intolerable agony, a second dose of 15 grains of the hydrate produced an entire night of calm, sweet sleep.

I have prescribed it very extensively, and it has been used freely by other medical gentlemen at this place, and

in no case has there been a failure, as far as my observation and experience extend. My patients, as well as myself, are delighted with a remedy so powerful, certain, safe and happy in its effects.

I shall conclude by stating to the profession, that after an extensive experience with the remedy for two months —most carefully conducted—I fully endorse it is a safe and powerful remedy. From the experiment I have made, I conclude that it is entirely free from any dangerous or unpleasant effect whatever, and is capable of substituting opium with advantage in a vast majority of cases—especially of mania, delirium tremens, hysteria, and all cases in which opium is indicated, merely as a tranquilizer and promoter of sleep. What effect it may be found to have in tetanus and other of the more violent surgical diseases and injuries, remains to be seen. It does not interfere at all with digestion, and may be given indifferently, without regard or reference to meals. From ten grains to half a drachm, repeated in twenty minutes, may be given. It is best given in a simple solution in pure water, for it is a very unstable chemical compound, and from some of its decompositions dangerous compounds may result. I have not observed a single fact that tends to support the views of some chemists concerning its effect, viz: that it is due to the slow production of chloroform in the system. But all the facts noticed have been averse to that conclusion. I have no theory to offer explanatory of the modus operandi, but I endorse the chloral hydrate as a remedy of very great value and striking powers. M. G. Elzey, M.D.

Note.—The Paris letter, for June, has not yet arrived. —E. S. G.

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"Judex Damnatur cum nocens Absolvitur."

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IX—The American Journal of Syphilography and Dermatology. By M. H. Henry, M.D. F. W. Christern. New York. Lindsay & Blakiston, Philadelphia, Pa.

1, This work furnishes to the reader most valuable information in regard to the medical and agricultural

resources of the Southern fields and forests, and is a most excellent medical botany of the Southern States. There is also incorporated in the work a vast amount of practical information on the useful properties of the trees, plants and shrubs of these latitudes. The author is entirely reliable and accurate in all of his statements, and this fact ought, in these days of exaggeration and extravagant assertion, to add very materially to the value of his volume. Dr. Porcher was born in the section of country of which he writes, he has been educated there and has lived there always, so that his teachings are the results of experience and observation, and are not derived from others. He is a most laborious, accurate and conscientious observer and withal fired with the commendable spirit of giving to his State and section that prominence in medicine and botany to which he proves them to be entitled. Much of the work was written during the late war, and the information furnished in regard to the properties of native medicines was particularly valuable, when it was so difficult to obtain medicines from abroad. Dr. Porcher is the author of several prize essays, and is so well known otherwise that further commendation is unnecessary. The work is exceedingly well arranged, and the publishers merit great praise for the manner in which it is issued.

II. This work is somewhat sensational and extravagant in character. The author attaches undue importance and gives unjust prominence to the genesaic frauds to which he alludes. That they exist to a serious extent, all are prepared to admit, but that they are as common as he represents them to be, most physicians will deny. These frauds are described severally and in detail, and while the propriety of this may be doubted, the reader yet gains much information (in regard to the results) which is of a valuable and practical character. There

are few who can read this book without feeling satisfied that he gives explanations to many obscure and insidious cases observed in practice. The work is small and can be obtained for a very small outlay, and will, it is believed, repay one for the time spent in its study. The propriety of a certificate given by the author, to a poor abandoned woman, may be admitted in Paris, but not, it is believed, elsewhere. This poor creature was, after a cruel seduction and subjection to a life of infamy, abandoned. In her despair, she resorted to arsenic and commited suicide. There being an epidemic of cholera prevalent, her attending physician (the author of this work) gives a certificate to the effect that she had died of cholera. Such a statement tempts one to suspect the veracity of a writer in regard to his cases and assertions, but it is, perhaps, best to extend to him that charity which he so freely extends to another.

III. This is the title of a paper which its author, Prof. S. D. Gross, of Philadelphia, has recently contributed to medical literature. If the article had emanated from an obscure practitioner, the reader would not have been surprised at the humble station of its author, but coming from a distinguished writer and teacher, those who read it can not fail to feel perplexed at his conspicuous record. It was once amusingly said of a surgical work, which proved to be a lamentable failure, that its errors constituted its only claims to originality. The errors in Dr. Gross' paper are proofs of its originality; not because Dr. Gross is specially prone to error, but because the views presented are so anomalous, so unprecedented, that it is not possible to believe that any recognized authorities could ever have presented them. Again; if this paper had been written by some one comparatively unknown, its dangerous errors would be powerless, because they would not be tested, but coming from one who has achieved a

most commendable distinction, there are very many (unaccustomed or incompetent to judge for themselves), who will institute the practice recommended, not because (it is hoped) of the soundness or common sense evinced in the practice advocated, but because of the reputation of its originator. That such misfortunes may not happen, every one will hope, but that they will happen many are prepared to expect. That Dr. Gross' reputation, as a surgeon is commendable, and, laboriously earned, is freely admitted, is with pleasure admitted, but that the reputation of any one as a physician should be conceded when such anomalies, such heresies, such inconsistencies and such palpable fallacies are advocated, is strongly denied.

Dr. Gross styles his paper "Nature's Voice in Disease and Convalescence." The basis of the whole argument offered, is, that in health, disease and convalescence, all that is proper for the well-being of the individual is manifested by *nature's voice;* that this psychological, intangible, inscrutable, infinitely vague agent, is the true guide in preserving the health of the individual, and should be adopted as an equally unerring guide where the health is lost and effort is made to rescue the individual from disease and death! More than this; he claims that the gratification in disease, as well as in health of each physical instinct and desire, is most likely to ensure the health or remove the disease of an individual! If either sick or well, he wants light for the eye, or sounds for the ear, or odors for the nostrils, or food or drink for the inner man, he should have it! More than this; if the sexual appetite, in health or disease, is active it should be gratified; "it is a craving of nature, an indication as to what is wholesome, and its prudent gratification is far more rational in a sanitive point of view, than its ascetic denial, attended as it would be under such cir-

cumstances by more or less mental and bodily perturbation, incompatible with the health of the system" !!! It is difficult to believe that such a quotation can be correct. It is entirely so. Of the morality of this teaching, each reader is the best judge; of its propriety tested, by the laws of physiology, pathology and Practice, the reviewer will have something to say in another place.

Sufficient space can be not given to elaborate in detail the many errors of this paper; the indication of a few of them must suffice. According to Dr. Gross; "every organ of the body has its wants and desires, and happily also the faculty of expressing them;" "it is an axiom in physiology that the appetite is an index as to what is wholesome; this law is applicable not less to diseased than to healthy men;" "the cravings of nature in disease and convalescence should not be disregarded, they should be most carefully watched and respected; this remark applies with equal force, alike to food and drink, to medicines," etc. Assuming, what no one will assume, that Dr. Gross is correct, when he claims that each organ of the body has the faculty of expressing its wants, it is only necessary in refuting any such claim, to allow Dr. Gross to appear as a witness in support of his individual assertion.

To take the case of the brain (and this case gives Dr. Gross a great advantage, for certainly this organ is expected to have a higher and safer knowledge of its wants, than those notoriously stupid organs the liver, spleen, etc., can ever have), and what is the testimony Dr. Gross places on record? Persons suffering long, he states, become "weak-minded," "whimsical," "capricious," "the patient in convalescence being restless, discontented and anxious to go about his accustomed business long before his shattered system is in a condition to bear the excitement and fatigue; *he should be restrained*, otherwise, as

is often witnessed in many, even of the more ordinary maladies, this uncurbed feeling may speedily rekindle the the slumbering embers of disease," and the patient subjected once more to the dangers of disorganization or death. Now it may well be asked, if, according to the testimony of Dr. Gross, his best organ, the brain, will so stultify and disgrace itself, showing itself to be so perfidious and unworthy of trust, how can he suppose that any one will attach any importance to this organ-story of his, or expect even reasonable deportment from notoriously illiterate and erratic organs like the pancreas or stomach; or those wayward, deceitful creatures, the liver and spleen? This subject is too ludicrous to be treated seriously, but if it be treated seriously, what are the facts?

It is known to all who have read even reasonably well, in this connection, that the wants of most organs are not appreciated by them, or to write more definitely, that if an organ is in need of special pabulum, or of anything necessary to its well-being and development, that this need is manifested and expressed elsewhere in the economy, and not by the organ itself. Thus, a want of blood in the brain is manifested or expressed by the heart; an excess of blood in the right heart is expressed by cerebral manifestations; an excess of blood in the left heart is expressed through the language of the lungs; cerebral disorders are most often expressed by the stomach; hepatic disorder is expressed by the nervous system; calculus in the bladder is often indicated by pain in the distal urethra; pus in the kidney is manifested by retracted testicle or thigh: organic or functional uterine trouble is often manifested by gastric or mammary disturbances, and so on ad infinitum. The want of an organ is not expressed by that organ but most usually by an organ distinct from it. Again, an organ may induce a

sense of want of the food proper to it when the food is fully supplied; when it would be unsafe to supply more; or there may be no wan tof food felt when the individual is perishing from inanition. The lungs even when abundantly supplied may seem to the patient to want air, if there be any interference with its passage into the circulation; the stomach wants food often in certain diseases and conditions (as in diabetes, fistulas, etc.) when food is abundantly supplied, and it does not want food frequently when it is to a dangerous extent deprived of it. The sense of hunger is not resident as is known in the stomach; a sense of blood poverty is not referred to the heart; a want of air is not referred to the lungs. One sees thus that organs often "want" when they are filled to repletion, and have no "want" when the system is perishing for material not consciously needed. These examples could be multiplied indefinitely, but such a course is not necessary, and could not more fully expose the fallacy of Dr. Gross' novel and extraordinary assertions. It is useless then to criticise seriously and in detail such teachings, however respectable their source; their incongruousness and untenability are evident to the most superficial reader.

Dr. Gross claims, as an old physiological axiom, that "the appetite is an index as to what is wholesome, whether in health or disease." Physiology has never, in the darkest ages, made so egregious a blunder. Man has often an appetite inappeasable for substances, that are not only not "wholesome" but positively poisonous. The victims of cirrhosis are cursed, even to the day of death, with a craving appetite for the very food which ruins them physically (mentally, morally and socially), and places them in an early and dishonored grave. Who can measure the voracity of the appetite which haunts the bloated tippler, the besotted opium

eater, the half demented hashish smoker, the amblyopic, and dyspeptic tobacco chewer, or of all the victims who cheat themselves with the absurd delusion, that appetite can be a safe guide as to what is wholesome or harmless? Who can explain the reason of suffering that is often engendered by the reasonable indulgence of appetite, if appetite is to be accepted as an absolute guide in regard to "what is wholesome?" Who can explain the gastric and intestinal disorders often succeeding the moderate indulgence of appetite, if he believes that appetite is always a safe guide?

In recovery from diseases, who does not know that appetite becomes often an enemy, and almost ceases to be a friend? How many cases of intestinal perforation are there on record, where convalescent typhoid fever patients have been allowed to demonstrate the truth of "the physiological axiom," that "the appetite is an index of what is wholesome?" Where the spleen is removed, the animal will eat to his positive injury. In diabetes mellitus, an inappeasable appetite, if accepted as "a guide," would wreck the powers of digestion. Where fistulas—traumatic or artificial—exist, a constant symptom is a voracious and dangerous appetite. The drunkard's appetite destroys him. What is to be said then of this libel on physiology that one of its axioms is, "appetite is an index as to what is wholesome?" Surely that it is *gross* injustice to this great science. Such an assertion might be an ingenious defense for the cannibal after his traditional breakfast upon "cold clergyman," but it is lamentable and dangerous when coming from a prominent and distinguished teacher. What, however, is Dr. Gross' admission elsewhere: that often "the judgment of the palate is perverted; the stomach is insane;" yet he would rely "in health and disease," not upon the perverted judgment and insane teachings of an individual,

but upon the judgment of a perverted palate, and the teachings of a stomach often insane. Such reasoning, such physiology, such pathology, such Practice, are beyond measure, surprising and dangerous.

Dr. Gross fortifies himself with examples or cases, and the most superficial reading shows that these cases refute his whole teachings.

A young woman, the victim of nausea, rejects all food; "the voice of nature" is for champagne, but her physicians refuse to allow it. Dr. Gross sees the case, gives champagne and the nausea is relieved. Does this case show that "the voice of nature" is the superior guide, or, that her first physicians did not understand their business? Does not almost everyone know that champagne is often more reliable in such cases, than all the antinauseants combined? Next Dr. Gross sees a young man —a victim of diarrhœa: his physicians treat the case badly; Dr. Gross gives him "large doses of quinine, arsenious acid, strychnia and morphia," and he gets well, though he is allowed to indulge "the voice of nature" by "eating oysters, with vinegar and pepper, mustard, horse-raddish and chow-chow." Chow-chow consists of vegetables boiled in vinegar: vinegar is a notoriously excellent domestic remedy for diarrhœa: pepper and horse-raddish are excellent carminatives; morphia, strychnia, quinine and arsenious acid, were eminently necessary for this young man, who, poisoned with malaria, as is stated, had a diarrhœa. Is it astonishing that this patient recovered? Did his physician heal him, or the "voice of nature?" Next a bad case of sciatica recovers, after the daily use of a half grain of morphia injected hypodermically: this was prescribed by Dr. Gross, while the "voice of nature" prescribed cider—"a bottleful at one sitting." These are certainly not very strong points for one who wishes to prove the wisdom of that omniscient organ,

the stomach; nor are they strong points for proving the wisdom of the "voice of nature:" that they prove Dr. Gross to be familiar with very familiar practice in such cases, is admitted. Next an eccentric young woman, who had chronic jaundice, "took a fancy to boiled carrots, with vinegar and carroway seed;" the "voice of nature" is allowed to make an experiment in her case, and with this certainly unique prescription, Dr. Gross being in consultation, makes a rapid cure. That the withdrawal of the "great variety of medicines she had been taking," with an apperient diet, should remove a condition confessedly transitory (when not dependent upon organic changes or mechanical causes), is certainly not material for "a case," though the reviewer is willing in a spirit of gratitude to accord this cure to "the voice of nature," on account of the rarity and value of her prescription.

Dr. Gross reserves his great case for the last. It is that of a young physician of Louisville, whom Dr. Gross saw in consultation with Dr. Joseph Knight and Prof. Rogers, of this city. This young man had typhoid fever; he had been successfully treated by his physicians, but "the voice of nature" suggested that he had best indulge his venereal appetite, as a means of expediting the cure. He did so, and of course, as "the appetite is an index of what is wholesome," he recovered. If he had recovered, the reader could consider the logic, or at least the appositeness of the case; but what happened after this treatment of "the voice of nature?" "The gratification of this passion was immediately followed," writes Dr. Gross, "by excessive pain in the abdomen, with great increase of prostration, causing death within twenty-four hours." Is not this most remarkable logic to use in advocacy of the wisdom of "the voice of nature in disease and convalescence?" Is it not a most wonderful termination for this wonderful paper? It is, indeed, a paper as won-

derful as it is dangerous; one which all who read will describe, in the language of Dominie Sampson, as "prodigious."

If a tithe of this paper be true—if such teachings be respected—the physician may well surrender the claims made by him in behalf of reason, education, common sense, science and experience. He had best burn his books, give away his diploma, transfer his patients to "the voice of nature," and, like Paul, sit down in humility at the feet of this new Gamaliel.

Note.—This paper appeared in The American Practitioner, for May, 1870. It is not often that papers published in journals and magazines are reviewed, and when this is done, the cause is so apparent, as to render explanation almost unnecessary. If dangerous teachings, published independently, in pamphlet or book form, render a review necessary, it is far more necessary to review such teachings, when they are published, not as the result of the individual judgment of their author, but after they have been submitted to the scrutiny and judgment of editors, who are themselves practitioners and teachers.

E. S. G.

IV. This is a pamphlet, containing, in brief, the salient characteristics and chief facts manifested in the life of Dr. B. W. Dudley, of Lexington, Ky. One realizes most painfully on reading it, the truth of that popular axiom which declares the necessity of a friendly pen for the elaboration of biography. How vain to expect, otherwise, that welcome justice and pleasing liberality with which friendship loves always to mantle the faults and excuse the errors of the departed. Here is Dr. Yandell's eulogy: Dr. Dudley was born of "respectable parents;" he had only such an education as his neighborhood could furnish; if he studied any language but his own at school, "it must have been superficially;" "he made no pretensions to Greek or Latin;" "he was probably no student;" "his turn of mind was not literary;" "he felt

painfully the want of classical attainments;" "he was embarrassed in the society of scholars;" "he felt the disadvantage of a deficient education;" "in point of mental endowment, several of his associates had the advantage of him;" "there were in the faculty, at *all* times, men who surpassed him in *all* the qualities that go to form the popular lecturer;" "Caldwell was more brilliant and eloquent, besides being a profound scholar;" "Brown was superior to him in voice and person—in versatility of mind and in depth and variety of learning;" "Drake exceeded him in elocution, in earnestness, in the extent of his attainments, and in grasp of mind;" "Dr. Dudley laid no claims to professional erudition;" "he was not a logician, he was not brilliant;" "he had neither humor nor wit;" "he had no taste for writing;" "his Hippocrene soon ran dry;" etc., etc.

"*De mortuis nil nisi bonum*," is a moral inculcation so just and so beautiful, that friendship has long adopted it as a tenet in harmony with its instincts and its life: antagonism and enmity have confessed at least the expediency and policy of its advocacy; nations throughout the civilized world have embalmed it for a just and perpetual admiration. Indeed, the beautiful custom of sparing the faults and deficiencies of the dead, arises not from the obedience of mankind to any moral law, however exquisite and appropriate this law may be, but to the instincts of a kindly human nature. *When this is not the case, the fact can never escape remark.* In this connection, it may be said that this paper of Dr. Yandell is the most remarkable *eulogy* on record. It adds, to many, another illustration of the impossibility of any one but a friend rendering justice to the life and memory of the dead. There are to be found, in many places in his paper, studied and commendable efforts to speak kindly of the departed; these, however, are but as feeble and transitory

gleams of light, rendering only more evident the dark and unpleasant picture. Philanthropy may admire this aspiration of charity, which would strew, with even a few flowers, the grave of a well-known and successful antagonist, but critical justice finds in the petals of every offering, the active canker-worm whose repulsive vigor tells the manifest story of a long life, with careful fostering.

A noble man, a great physician has passed away. His *eulogy* is, however, yet to be written and *reviewed*. After reading what has so far been offered for this purpose, one may well exclaim, with a novel meaning in regard to the dead—*requiescat in pace.*

V. This volume is the production of a young author of this city. It is gratifying to find in this vast emporium, this bustling scene of commercial activity, that there is one who can turn away from the lucrative pursuits of a commercial or mercantile life, and devote himself to a cultivation of the refining and elevating study of polite literature. Such an act requires heroic determination; it is virtually to resign the hope of pecuniary success; and to look for reward in the consciousness of mental accumulation and intellectual development. To be here a connoisseur in the smell of bacon, in the aroma of tobacco, in the quality of hemp, etc., is to be a capitalist in prospective, and consequently a great man; to be a student, is to be the embodiment of poverty, the beautiful incarnation of endurance and fortitude. Happy the man who can sufficiently appreciate the respective results; who can prefer the great glory of the last, to the ignoble rewards of the first. He is somewhat a hero, but he must expect to be a martyr!

One of the chief attractions of this work is the sketch which it contains of the life of Mr. George D. Prentice; one too well known to require even the briefest descrip-

tion. Mr. Griffin was an intimate friend of Mr. Prentice, and his contrabution, in addition to its other merits, has the great attraction of being an embodiment of interesting facts. His criticism of Victor Hugo is caustic but just. Marmontel's Belisarius is instructive and interesting. Vathek contains extracts which alone will repay the reader for his expended time. Indeed, Mr. Griffin has written interestingly and creditably of the following familiar subjects: The Scarlet Letter; Booth's Macbeth; Hamlet; Garrick; The Gypsies; Autographs, etc., etc. The style of the author is easy and in most respects commendable, the defects being such as a maturer judgment and a more minute attention, with trifling changes in taste, will easily eliminate. His work is heartily commended and will, it is hoped, meet with a prompt and liberal encouragement.

VI. This new candidate for the favor of the student and physician will, it is believed, receive it. In a compact octavo volume, there is to be found a large amount of valuable and reliable information. The merits of this work are its conciseness, judiciousness, method, and lucidity. The author deserves success and should have it. It is well issued.

VII. This pamphlet makes evident the following facts: that Dr. Buckingham, of Boston, treated a fatal case of placenta prævia very badly; that he has been justly held responsible for it; that he seeks to evade this responsibility; and that the statements against him are too numerous and positive for him to escape well merited censure.

VIII. This is a new journal. It is devoted to an important and interesting specialty. Its editors are accomplished and efficient. The work is well arranged. The matter is valuable. The illustrations excellent and the entire volume a credit to all concerned. The publishers,

Messrs. William Wood & Co., will make this journal a success, if liberality, care, and beauty of execution can accomplish this much desired end. To all who are studying specially the diseases of the eye and ear, this periodical is heartily recommended.

IX. This also a new journal. It fills a void long felt by the physician. All that has been said in regard to the journal just described is fully and heartily repeated. The practitioner who desires a very superior publication on this specialty, can not do better than to subscribe to this journal.

The readers of the reviews in this journal (the R. & L. M. J.), will, it is hoped feel satisfied that the editor does not and will not publish facile and foolish eulogies in regard to every volume sent or received for review. If a publication is recommended or censured, there may be manifested errors of judgment, but certainly none of intention. E. S. G.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

Eulogy of Baron Dupuytren.—[Baron Hippolite Larrey, son of the old Baron whom Napoleon pronounced the most virtuous man he ever knew, and to whom he bequeathed 100,000 francs, recently delivered an èloge at the request of the Imperial Institute of France, at the inauguration of a statue to Dupuytren. As we were fellow-students at the Hotel Dieu and at his father's military hospital in Paris, 1830-31, and renewed our acquaintance after the battles of Magenta and Solforino in 1859, he has had the kindness to send me this address. The translation is not literal, and some of my own reminiscenes of this great surgeon are added.—Paul F. Eve, M.D., Nashville, Tenn].

William Dupuytren was born October, 1778, at Pierre-Buffiére, a small village on the road from Toulouse to

Paris. His father was a lawyer of moderate means, but owned a house of fair pretensions, upon which has been placed a marble slab, recording the name of his illustrious son.

The education of his early years was opposed by the obstinacy of his character, but he soon yielded to the discipline of Lamarche in Paris, and gave evidence of precocious intellect. It has been supposed that he naturally inclined to medicine, but an intimate friend and companion proves that young Dupuytren preferred the army: his father however decided for surgery.

Full of ambition and anxious to acquire the profession, he attended the lectures of the great masters of this epoch: Vauquilin on Chemistry, Corvisart and Boyer at Charity, Pinel at Salpêtrière, and Cuvier at the Garden of Plants. Chosen at the early age of eighteen prosector of anatomy to the Faculty of Medicine, he replaced Duméril, then became professor: Dupuytren thenceforth studied pathology in connection with anatomy. Successor of Bichat, he became the predecessor of Cruveilhier in these investigations now so highly appreciated in our days. It was he who first made the application of this invaluable department to surgery.

In 1803, Dupuytren was a candidate for surgeon of the second class in the Hotel Dieu, and was successful over several competitors of much merit, among whom was Roux. Before him was now opened the portals to the temple of surgery, then the most celebrated in Europe, and where yet rested the memories of Desault and Bichat, names forever consecrated by the profession. Pelletan was then the chief surgeon of the Hotel Dieu, whose rigid discipline, eloquent lectures and worthy character offered a good moral for his aspiring assistant. After serving five years in this capacity, in 1808 he rose to the position of adjunct in chief. The chair of operative surgery being made vacant in 1811, by the death of the wise and venerable Sabbatier, a concour for the chair was advertised for the next year, and notwithstanding the redoubtable competitors, Roux and Marjolin, and the severest scrutiny, Wm. Dupuytren was unanimously named the professor. This triumphant success, together with other causes, provoked Pellitan to resign, and thus was he left chief surgeon of this great hospital.

On the invasion of France by foreign troops, in 1814, even to the barriers of Paris, Dupuytren volunteered to

aid the wounded and marched at the head of the hospital staff to their relief. The revolution of the three noted days of July, 1830, again furnished him another opportunity to perfect his study of gun-shot wounds.

Those of us who followed his service will long remember how punctual was his daily morning visit, being generally the first to arrive and the last to leave the hospital, after devoting five hours of unremitting labor; dressing as he would himself the severe cases, then delivering a lecture or operating an hour in the amphitheatre, and finally attending a long gratuitous consultation for outdoor patients. It was too his regular custom to watch by a second visit all those in a critical condition. Full of reserve and tact before the sick, he would address a few pertinent questions to them which he required to be answered by each one without interruption, so as to avoid confusion, incertitude or errors in diagnosis; but was always affable to children and those born blind. In diagnosis he had no equal. A tumor seemed to inspire him with a kind of divination, and he would expose its character as if by the bistoury or microscope. Once, however, he punctured an aneurism of the carotid for an abscess in the neck, but his *sang froid* was most extraordinary, though before a class of 400; closing the opening by a finger, he quietly asked for "une ligature."

On one occasion, a patient entered the hospital with obscure cerebral symptoms after receiving a blow on the head. Dupuytren, to the amazement of all present, trephined the skull and plunging a bistoury into the brain laid opened an abscess in this organ. Some years ago he was consulted in regard to a murder committed in Paris. In examining the body, the heart and aorta were found punctured, the chest contained coagula, while the hands were uninjured, the forhead was bruised and the mouth retained a piece of human skin. Dupuytren reported that the man was stabbed to death when securely held, so that he had used his teeth and head in defense. Soon after this significant report was published, a gambler was wounded in an affray at the Palais Royal, who refused to have the injury even inspected. This excited suspicion, and being now recognized as the brother of the victim, was arrested, when an ulcer was found just above the wrist, as if made by a bite; he was tried, convicted, confessed to an accomplice, and was guillotined.

But his great fort was in clinical teaching; none could lecture as he did. Always simple, perfectly clear, and possessing the most intimate knowledge of his subject, he taught as it were by authority. His reputation throughout Europe and America brought crowds, not only of students, but the most distinguished in surgery to the Hotel Dieu. Sir Astley Cooper in his best days was a visitor there. Prince of science, Baron Dupuytren made his hospital the palace of his government, and where it must be confessed, he reigned sometimes like a despot. But to be appreciated he had to be thoroughly known, when his foibles and imperfections would be forgotten in the admiration for his talent, vast learning, beauty and force as a lecturer and unrivaled skill as an operator. Even those who, doubting his absolute decisions in critical cases, have often witnessed patients kiss the hand which had relieved them and bless the surgeon who had saved their lives.

No private call, however urgent, made him neglect his official duties: no grand personage, under any circumstances, could force him to leave an humble hospital patient. One of his most intimate friends, his private secretary, declared that the poor consumed the time due his rich private patients. After quitting the hospital at eleven o'clock, he was often consulted on acts of the Faculty of Medicine, had to attend sessions of the Institute, of the Academy, or Council of the University, before he could attend to his numerous private calls. He has been reproached for not writing more or making larger works; but if he left no ponderous volumes, he certainly inspired others to do so; volumes too of unquestionable merit. But it is not true that he was reserved in the use of the pen. It takes seven octavo pages for his eulogist to give a rapid analysis of his scientific works, and he actually illustrated during his short professional career, no less than seventy-four surgical subjects. Of his report made to the chamber of Peers on the assassination of the Duke of Berry, son of the reigning king of France, Charles X., the celebrated Fontane said "it required his whole lifetime to become the first in his profession, and behold one great crime has made him a distinguished writer." Dupuytren published essays on hydrophobia, cholera on its invasion of France; diabetes, burns, (with the best division yet known), cicatricial or inodular tissue; encysted tumors; anthrax; formation of callus; fractures,

particularly of the inferior extremity of the fibula and radius; aneurisms; luxations; exostoses; cataract; amputation of lower jaw; section of muscles and tendons; hernia; cure of artificial anus; systematized the bilateral operation growing more popular every day; encouraged lithotrity, now becoming *the* operation for stone; &c., &c., &c.; besides Lectures on Clinical Surgery, Treatise on Gun-shot wounds, etc., etc. In fact, it is doubtful if I. L. Petit, secretary to the old Academy of Surgery for thirty years, was more prolific with his pen, or could have done more under the same circumstances.

In stature Dupuytren was rather above medium hight, possessed a robust constitution, had a full, round face, large forehead, proud look, was majestic in his movement, and never did anything hurriedly. His physiognomy was stern, presenting an energetic expresion full ot reflection. His mouth, a little disdainful in silence, gave, in speaking, a sympathetic expression, especially to patients, or in the presence of children.

He had too a heart full of noble impulse. When Charles X. was driven from his throne in 1830, he immediately offered him a million of his fortune; and many an unfortunate patient at the Hotel Dieu and elsewhere has shared his bounty.

One so distinguished as he was had not long to wait for the crowning honor of the great men, the savants of France and Europe. The place of Baron Percy in the Institute became vacant by his death, the 18th of February, 1825. Competition for his succession were presented in the following order: Larrey, Richerand, Roux, Dupuytren, Jules Cloquet, Alibert. Serres, and Desgenettes. A large majority of votes was cast for Wm. Dupuytren, who was thus elected a member of the Academy of Sciences, April 1825.

Invested with all the dignity of great men, member of the Inftitute of France, of the counsel of public Hygiene, correspondent member of most of the learned societies of Europe, professor of the Faculty of Paris, inspector-general or counsellor of the University, surgeon to two kings, and surgeon in chief of the Hotel Dieu, and moreover, invariably successful over all competition, the title most precious to him was that of *Baron* Dupuytren, since it was acquired by the practice of his art, and brought him dignity, honors, and an immense fortune. But all these distinctions did not make him a happy man.

Whether this arose from the painful preoccupations of his mind with ever constant disquietudes, or the very grave responsibilities of his mission, let us not stop to inquire here, as we now approach his last days. His vigorous constitution and untiring activity defied disease until November, 1833, when one morning on his way afoot—as was his custom—to the hospital, he experienced a slight vertigo from congestion to the head, but he nevertheless made his visit and delivered his lecture. Recognizing on his return home threatened apoplexy, he was bled, and continued to struggle for months against the decline of strength and flesh, exclaiming when required to keep quiet—"Repose, that is death."

He divided his service in the hospital between his well-tried friends, Breschet and Sanson, still retaining the position of supreme surgeon. In the Spring he took a short [illegible] Italy, but his restless mind knew no repose, and

ERRATA.

On page 745 read as follows: *Messieurs il faut toujours travailler.*

aries, il faut toujoux travvauer. [illegible] spirits, may the illustrious examples of your wonderful industry and Hereulean labors ever inspire the followers of the healing art.

After his return to Paris he had three attacks of apoplexy, one while lecturing; his sight eye was closed, his mouth became distorted, and though complete hemiplegia was imminent, he yet continued to the end of his lecture by supporting his half paralyzed cheek with his hand. He thus presented to his astonished pupils the imposing aspect of an indomitable soul, ready to meet death calmly in the discharge of duty, and evincing a heroism not surpassed on the field of battle.

In vain did friendship and science unite in lavishing their best efforts to prolong life. Husson, Broussais, Cruveilhier, Bouillaud, Sanson and Marx, did all they could, but to no purpose in staying the progress of disease, and this illustrious surgeon expired on the 8th of April, 1835, fifty-six and a half years old. At the autopsy was found, as he had told his friends, a large serous effusion in his chest and traces of sanguine deposits in the brain.

Dupuytren left by his will to the faculty of medicine

200,000 francs to create a chair of pathological anatomy; but by an official decree this was done at the expense of government, and his legacy served to found a museum, bearing his name.

The funeral services performed thirty-four years ago were worthy the character of this great man. Orfila, for the Faculty; Larrey, for the Institute; Pariset, for the Academy, and Royer-Collard in the name of the Students of the Hotel Dieu, rendered pious homage to his memory. The day after his death, and for a long time, the medical faculty wore mourning; the Institute, the Academy and the Faculty had lost one of their most illustrious members; the Hotel Dieu seemed empty in the midst of silent students and unhappy patients; the hospital had lost its chief; this vast asylum for the distressed appeared closed in despair.

Thus lived, thus died, said Bouillaud, he who bore with an unfaultering hand, for twenty years, the sceptre of French surgery.

The statue, unveiled before you this day and clothed in his professional robes, attests the glory and consecrates forever the memory of an humble country lad attaining to the rank of a great man becoming one of the true benefactors of humanity.

To this beautiful eulogy of the first of surgeons, in my humble judgment, may be added the opinion of one of his early associates, long preserved among my notes. Antoine Dubois operated more rapidly, and with more dexterity than Dupuytren; Desault was more brilliant, more majestic; Boyer, more prudent, gentle and humane; Roux more erndite in his art, more elegant in his movements, more nimble-fingered; Marjolin was a man of more mature reflection; Lisfranc, more stern, more expiditious: but no surgeon had a more unfailing *coup d'œil*, a sounder judgment or a firmer hand; no one possessed a mind more imperturbable, or more prompt in perilous emergencies, than Dupuytren.

American Medical Association.—Twenty-First Annual Meeting, Held in Lincoln Hall, Washington, D. C. First Day—May 3, 1870.—Prof. G. Mendenhall, President, in the Chair.

The Association met pursuant to adjournment, and was called to order by the President, at 11 o'clock, A.M.

Prayer was offered by Rev. Charles B. Boynton, D.D., of Washington, D. C.

Dr. Thomas Antisell, of Washington, D. C., in a brief and appropriate address, bade the members of the Association a cordial welcome.

The following was announced as the programme for the evenings at the disposal of the Association:

Tuesday, May 3d.—Reception of the Association by the President of the United States, at 8 P.M.

Wednesday, May 4th.—At 7 P.M., visit of the Association to the Army Medical Museum, and reading of papers.

Thursday, May 5th.—At 8 P.M., illumination of the Capitol dome, and at 9 P.M., reception by Mayor Bowen, of Washington.

The Report of the Committee on Credentials was presented by Dr. Thomas Antisell, D. C., in which it was stated that they excluded the delegates from the National Medical Society, the American Academy of Medicine, the Howard University Medical College, and the Alumni Association of the Medical Department of Georgetown College.

The minority report of the same committee was read by Dr. Robert Reyburn, protesting against the action of the committee. Dr. Reyburn attempted a personal explanation, and was proceeding with rather violent charges and criminations, when Dr. N. S. Davis, of Chicago, moved that the report be referred to the Committee on Ethics, without remark. A sharp debate ensued, and the motion was finally carried.

Dr. Busey submitted a protest against the admission of Dr. C. C. Cox, from the State of Maryland, and Dr. Cox took the stand to reply, but Dr. Davis insisted that this matter and all similar grievances be referred to the Committee on Ethics.

Dr. Sayre, of New York, rose to request that the serious charges made against his character by Dr. Ruppaner be referred to a Special Committee on Ethics, as he was chairman of the regular committee, and could not consistently act in the premises.

Dr. N. S. Davis moved that a Special Committee on Ethics be appointed for that purpose. Carried.

The President then appointed Drs. Alfred Stillè, N. S. Davis, J. M. Keller, H. F. Askew, and J. J. Woodward, U. S. A., a Special Committee on Ethics to consider the above case.

The President then delivered his address. After expressing his high appreciation of the honor conferred on

him by the Association, the President proceeded to review briefly the history and work of the Association during the twenty-three years that it had been in existence.

The influence of the Association had affected a great reform in the matter of medical education, had raised the standard of attainments, and had drawn the line distinctly between the honorable practitioner and the charlatan. We had now a Code of Ethics which in itself was one very important result of the labors of the Association. The Code of Ethics should be made familiar to every student of medicine, and impressed upon all students by their teachers. Each graduate should receive a copy of it.

Another great work of the Association was the influence exerted on American medical literature, which had advanced to such an extent that we could now return all obligations to our transatlantic brethren. The literature of the Association was very considerable, and he would suggest that much of it was well worthy of publication, but was now lying idle in the archives of the society. There was no time even to read many of the valuable original papers received; and in this connection he would suggest that a longer time than was usual might very profitably be spent by the Association at its annual meetings.

In regard to medical education, the time had arrived for decisive action. Advance was practicable and should be insisted upon, and the schools held accountable for the execution of whatever plan might be deemed best. Of course all could not be done at once, but some system should be matured and adopted without further delay. That there was abundant room for improvement, there could be no manner of doubt.

The custom of the Association had been to send delegates to foreign medical societies. That courtesy had not been reciprocated, and he would recommend that hereafter no delegates be sent to societies that have failed to respond to them in the past.

The President then dwelt at some length on the question of copyrights and patent-rights, taking the ground that there was no analogy between them, and that patent-rights ought not to be claimed by the profession either for instruments, surgical appliances, medicines, or modes of cure of any kind.

The President closed his address, after warning the

profession against a possible moral evil resulting from the too liberal prescription of the various forms of alcohol and opium, with a touching allusion to the many distinguished medical men who had been removed by death since the last annual meeting.

A vote of thanks was tendered the President for his address, and a copy requested for publication.

[This address does honor to the heart as well as head of the distinguished speaker.—E. S. G.]

Thirty-eight committees were then called upon for their reports. Five of these committees responded; thirty-three of them had done nothing.

The following papers were referred to sections: "Extraction of Tumor from Knee-Joint," A. B. Stewart, Section on Surgery. "Intra-uterine Injections," J. Byrne, N. Y., Section Obstetrics. "Best Method of Curing the Insane," C. A. Lee, Section on Psychology. "Veterinary Colleges," T. Antisell, D. C., Section on Materia Medica. "Cellular Structure of Red Blood-Corpuscle," J. G. Richardson, Phila., Section on Physiology. "Improved Medicinal Treatment," J. H. Griscom, N. Y., Section on Practical Medicine. "Median Lithotomy," Jas. L. Little, N. Y., Section on Surgery. "Imperforate Anus, New Operation for," T. M. Healey, Section on Surgery. "New Method of Effecting Reduction at the Shoulder-Joint," S. Logan, N. O., Section on Surgery. "Case of Congenital Occlusion of Rima Glottidis," L. Elsberg, N. Y., Section on Surgery. "Tubercular Degeneration of Kidney," C. H. Olio, Section on Surgery. "Carbolic Acid in Purulent Conjunctivitis," J. G. Rogers, Md., Section on Surgery.

A brief recess was then taken to allow of the appointment of State nominating committees, which were subsequently announced by the chair.

After some further discussion of personal grievances, the Association adjourned until 9 o'clock next morning.

The members of the Association were very pleasantly entertained at the White House in the evening, by President Grant and Mrs. Grant. The delegates were introduced by Dr. T. Antisell, and made themselves at home in the various parlors from 8 to 10 P. M.

SECOND DAY—MAY 4, 1870.

The Association was called to order at 9.30 A. M., and on motion of Dr. Atlee the reading of minutes was dispensed with.

Dr. Gross made a motion to the effect that a social re-

union be held at the Arlington House to-morrow evening, each member defraying his portion of the expense of a dinner. Carried.

Dr. A. Stillé made a partial report from the Committee on Ethics, in favor of admitting the delegates from the Massachusetts Med. Soc., but recommending that society to purge itself of obnoxious members in future. Adopted.

Dr. Ross, of N. Y., moved the reconsideration of the motion referring Dr. Antisell's paper to the committee on publication. After some discussion that paper was referred to a special committee, with instructions to report upon it.

An ineffectual attempt was made to renew the discussion of personal grievances among delegates from the District of Columbia. Dr. Loomis, of Washington, moved that delegates from the District of Columbia, be admitted while the question of their eligibility was pending. Lost. On division, ayes, 107; noes, 142.

Dr. Cox moved that the said delegates be refused admission until the report of the Commttee on Ethics. Carried.

Dr. F. G. Smith read the report of the Standing Committee on Publication. Accepted.

Dr. Gross moved that instead of the annual volume, the proceedings of the Association be published in a monthly or other periodical, to be conducted by the Association. Referred to a select committee of five.

Dr. W. B. Atkinson read the report of the Treasurer. Referred to the committee on publication.

Dr. Gross submitted a letter from the British Medical Association, regreting that no delegate could be sent on the present occasion, but conveying the good wishes and cordial sympathy of the British Association, with assurances of welcome to future delegates from their American brethren.

On motion, the letter was accepted and placed on file, and delegates appointed to attend the next meeting of the British Association.

The President announced the following delegates: H. J. Bowditch, J. S. Cohen, E. H. M. Sell, L. Elsberg, M. P. Stephenson, R. R. McIlvain, and H. Lindsey.

The report of the Librarian Committee was read by Dr. R. Reyburn, Chairman. Ordered to be put on file, and bills audited and paid.

Dr. L. A. Sayre moved that the present Committee on

Ethics be discharged, and matters now before it referred to the new committee on the same subject. Carried.

Drs. McNaughton and Gethard were invited to take seats on the platform, and came foward accordingly.

The Committee on Education was called on for a report, but was uot prepared.

Dr. J. J. Woodward, U. S. A., presented the report of the Committee on Medical Literature, which was read by the Secretary, Dr. Atkinson.

At this stage of the proceedings a motion was made to reconsider the resolution of Dr. Gross concerning an Association dinner, the result of which, was that the whole subject was laid on the table.

The Committee on Necrology, Dr. C. C. Cox, Chairman, requested more time to complete their report. Granted.

Dr. Moore, of Missouri, introduced the following resolution:—

'That all medical achools now recognized by the Association be required to charge not less than ——dollars for an official course of lectures, under penalty of non-recognition by this Association, and all colleges represented on its floor."

Dr. Selden, of Ohio, moved an amendment that the minimum fee be fixed at one hundred dollars in the resolution as read. Carried.

Dr. David W. Yandell, of Kentucky, spoke against its passage, saying that it was contrary to the spirit of the Association, and contrary to the spirit of the age, to adopt a specific fee for instruction. Our spirit is to educate without reference to compensation. He thought it was competent for Institutions to teach for $50.00, or any other sum it might elect. He ignored the Latin and the Greek, but went in for the English, and he knew of many Latin and Greek scholars who could not write or speak good English. Without there was State legislation on the subject it were folly for this Association to attempt to adopt a uniform price for education; schools regulate themselves. The schools throughout the country maintain themselves, and yet some charge only $50.00, while others get $150.00, and the instruction in one is of no higher degree of excellence than the other. The great law of supply and demand goes on; education, like all other commodities, must regulate itself. Let us charge $1.000 if we can get it, and $50.00 if we cannot

get more. He (Dr. Yandell) thought it as absurd to attempt to fix the price of lectures as it would be to try to regulate the price of horses or beef. There was a great difference in the expenses, rents, etc., in cities and in smaller towns; and the mere fact that colleges charged a given sum for lectures would make no difference whatever in the character of the graduates. He thought these things must regulate themselves; the Association could never control the schools. Some Institutions gave their lectures free, and the institution was as good as any.

After some further discussion the motion was laid on the table.

Dr. C. T. Collins, of Massachusetts, introduced the following resolution:—"That whereas the business of life insurance has already become one of great magnitude in the United States, and is daily increasing in importance, affording large profits to those interested; and whereas, the responsibilities assumed by the medical examiners do not seem to have been heretofore properly appreciated by the different companies; therefore resolved, that this Association recommend that the sum of five dollars be the lowest amount charged for such examinations." Carried.

Dr. Horner, of Virginia, moved the following:—"That the American Medical Association do consider the expediency of a plan of uniform rates of charges, properly adjusted to the wants of the medical profession in the United States, presenting a schedule of the minimum fees, and thereby insuring a legal claim upon the community for the payment of such fees, and also diminishing the embarrassment of the young practitioner." Lost.

Dr. D. A. O'Donnelly, of Maryland, offered a resolution that a committee of three be appointed to report on the evil of abortion, and the Association denounce and expel all who indulge in the abominable practice. Passed. [What medical culprit has miscarried.—E.S.G.]

A paper on the subject of a national school, by Dr. Heard, of Galveston, was read by the Secretary. Placed on the minutes, to be acted upon next year.

The Committee on Nominations made the following report:—For *President*, Alfred Stillé, Pa.; *Vice-Presidents*, J. S. Wetherly, Ala.; Henry Gibbons, Cal.; J. T. Hurd, Texas; S. Willey, Minn.; *Assistant Secretary*, J. C. Tucker, Cal.; *Treasurer*, Caspar Wistar, Pa.; *Librarian*, F. A. Ashford, D. C.

Committee of Arrangements.—Chairman, A. M. Sawyer; Dr. Brown, U. S. A.; J. C. Tucker; —— Shurtleff; H. Murray, U. S. A.; Dr. Simmons, Cal.; Dr. Carpenter, Oregon; Dr. Monson, Nevada.

Committee of Publication.—Chairman, F. G. Smith, Pa.; W. B. Atkinson, Pa.; J. C. Tucker, Cal.; F. A. Ashford, D. C.; C. Wistar, Pa.; H. F. Askew, Del.; W. Mayburry, Pa.;

Committee on Prize Essay.—Chairman, T. M. L. Logan, Cal.; H. Gibbons, H. H. Toland, Beverly Cole, Casper Lane, Cal.

Place of meeting—San Francisco, Cal.

Time—First Tuesday in May, 1871, at 11 A.M.

The question of amending the Constitution was taken up. A paper on the subject, by Dr. Cochran, of Mobile, was read. The paper contained a resolution excluding all colleges, hospitals and asylums from representation in the Association. Lost.

The Secretary read a paper from Dr. Whitehead, of N. Y., moving the abolition of the code of ethics. Laid on the table.

Dr. Alfred Stillé, of Pennsylvania, Chairman of the Committee on Ethics, submitted a partial report, recommending that Dr. Cox be admitted as a delegate from Maryland, as the charges brought against him were too vague to receive the consideration of the committee.

Dr. Keller, of Kentucky, submitted a minority report from the Committee on Ethics, recommending that Dr. Cox should not have a seat as a representative from Maryland, as he was a resident of Washington, and moved its adoption.

The majority report was adopted.

Various papers were read by the Secretary and referred to the appropriate Sections. The Association then adjourned until 9 o'clock on Thursday morning.

In the evening the members of the Association met, according to programme, in the United States Army Medical Museum, on Tenth street. The early part of the evening was spent in examining the objects of interest in the Museum, which was highly praised by the visitors.

At 8 o'clock the Association adjourned to the lower hall, from which the desks had been removed and accommodations made to enable those present to listen to lectures from Drs. Otis and Woodward, of the United States Army.

Dr. George A. Otis delivered a highly interesting lecture on excisions for gunshot injuries, of which he exhibited many illustrations, in which the operations made had been successful and the patients recovered. The lecture was listened to with much attention.

Dr. J. J. Woodward then followed with a lecture on Microscopy, in which he illustrated the power of the artificial lights over the sunlight for micro-photography. Dr. Woodward was frequently interrupted by applause, as the excellence of the illustrations occasioned surprise and admiration.

After the lecture of Dr. Woodward the audience adjourned to the Museum, where the examination of the specimens continued to a late hour.

THIRD DAY—MAY 5, 1870.

The Association was called to order at 9:30 A.M.

Dr. Sayre stated, that having understood that the Committee on Ethics had so much work on hand that his own case would probably receive no attention during the present session, he had to request that the matter be referred to a special committee.

Dr. Maddox moved that the subject be laid on the table. Carried.

Dr. Pinkney, United States Navy, representative from the American Medical Association to the British Medical Association, read an interesting report, detailing an account of his visit to, and observations of, the medical schools of Europe. The paper was listened to with much attention. Referred to the Committee on Publication.

Dr. T. P. Smith, of Pennsylvania, Chairman of the Committee on Nomenclature of Diseases, made a report, with a resolution recommending the modification of the nomenclature of diseases, as prepared by the Royal College of Physicians at London, in 1869.

Dr. Underhill, of Nzw York, submitted a paper on the same subject.

The resolution was debated at considerable length by Drs. Smith, McDaniel, of Alabama, Logan, of Louisiana, and others. The report, together with the resolution, was adopted.

Dr. Cox offered a resolution, which was adopted, for the appointment of a special committee to wait upon the Surgeon-General of the United States, and to request the privilege of duplicating the photo-microscopic slides

of the tissues so admirably executed by the industry and skill of Surgeon J. J. Woodward, to be prepared under the direction of said committee, and distributed at a fair price to such medical colleges and institutions as may desire their use.

Dr. Beemiss, of Louisiana, from the Committee on Nominations, reported the additional standing committees for the ensuing year, which report was adopted.

Dr. Antisell offered a resolution of thanks to the Surgeon-General United States Army for the beautiful and instructive exhibition of last evening, and recommending Drs. Woodward and Otis to the consideration of the Secretary of War as worthy of promotion for their efforts to advance medical education in the military service.

Dr. Cox then offered a resolution of condolence with the family of the late Alden Marsh, of New York, and that a copy of the same be sent to Dr. Alden Marsh's bereaved family. The resolution was concurred in.

Dr. Stein, of New York, offered a resolution that the State and county authorities be requested to aid in the support of veterinary colleges in each of the States by appropriation or otherwise. Adopted.

Also, that one or more veterinary surgeons be associated with other physicians in the boards of health when they are appointed by the Governors. Lost.

Also, that veterinary surgeons be appointed to the army with the rank of full surgeons, and also in the Agricultural Department.

Dr. Otis moved as a substitute that the clause relating to appointments of veterinary surgeons to the United States Army be stricken out, and that the Government appoint a veterinary surgeon to the Agricultural Department, with a suitable salary. Adopted.

Dr. Storer, of Boston, offered the following:

Moved, that the vote of the Association at New Orleans, concerning cards of specialists in journals of a strictly medical character, be and the same is hereby rescinded.

Laid on the table.

A resolution was offered that a committee of three be appointed to wait upon Congress and request them to regulate the quarantine laws. Adopted.

The report from the delegate to the Canadian Medical Association was received, and referred to the Committee on Publication.

The report of the Committee on Communications was adopted, and the committee continued.

Dr. Stuart, District of Columbia, offered a resolution, that gentlemen not members of the Association were not eligible to serve on its committee. Tabled.

A resolution was offered regulating the duties of superintendents of hospitals. Adopted.

A resolution was offered that as certain so-called medical works had been published which were injurious to the reputation of the profession:

Resotved, That any person signing his name as author of such work shall be refused membership to this Association. Adopted.

Dr. Jones, of the District of Columbia, submitted a tabular statement of all the permanently organized medical institutions and colleges throughout the country, embracing much valuable and interesting information, which, after being read, was referred for publication in pamphlet form.

The Secretary, Dr. W. B. Atkinson, warned the Association that the state of the treasury rendered it very doubtful whether so extensive a publication could be undertaken.

Dr. Storer offered to publish it at his own expense, and furnish it to members of the Association at cost.

On motion to that effect the manuscript was handed to Dr. Storer.

Dr. Mussey, of Ohio, offered the following:

Resolved, That the clause in the by-laws which provides that every alternate meeting of the Association be held at Washington be repealed, and that in the future the place of meeting should be determined at each session of the Association. Adopted.

Dr. Kerwen, of Pa., from the Committee on the Treatment of the Insane, read a lengthy and interesting report, which was referred to the Committe on Publication.

Dr. White, of Buffalo, offered a resolution that the different medical schools of the country establish chairs on mental disorders. Adopted.

The Committee on Prize Essays announced that there had been received six essays of unusual merit. The prize had been awarded to one on the Treatment on Aneurisms, and Experiments in Securing Arteries by a New Method, by Dr. B. Howard, of New York.

A resolution was offered that a committee be appointed

to report what, if any, legislative means could be taken to prevent the spread of epidemic diseases. Adopted.

Dr. Cox inquired if the Committee on Ethics would make any further report on the weighty matters before them.

Dr. N. S. Davis, of Illinois, then submitted, on behalf of the majority of the Committee on Ethics, the following report:

It appears that the matter reported to your Committee of Registration, and so much of the action of the majority of same committee as relates to the same subject, embrace the three following subjects:

1st. A charge that a majority of the Registration Committee had refused to register the delegates presenting credentials from several societies, colleges, and hospitals in the District of Columbia, which claimed the right to representation.

2d. Direct charges against the Washington Society and the Medical Association of the District of Columbia, accompanied by a protest against the admission of delegates from those bodies.

3d. Direct charges, which has been lodged with the Committee on Registration, against the National Medical Association of the District of Columbia, accompanied by a protest against the registration of delegates from that society, and from such other institutions as were supplied with medical officers who were members of that society.

In regard to the first charge, your committee find, on investigation, that the Registration Committee have duly registered all the delegates from all the medical institutions claiming representation in the District of Columbia, in accordance with the usages and by-laws of the Association, except the Medical Society of the Alumni of Georgetown College, the National Medical Society, the Howard Medical College, the Freedmen's Hospital, and the Small-pox Hospital, these being the institutions included in the charges already mentioned in the third specification.

It remains, therefore, only to consider the second and third specifications, and your committee ask leave to report on these separately. In relation to the second, we unanimously recommend the following resolution:

Resolved, That the charges offered by Dr. Reyburn, as a minority of the Committee on Registration, against the Medical Society and the Medical Association of the District of Columbia, are not of a nature to require the

action of the American Medical Association, the first charge referring to a duty imposed on the society by an act of Congress, and the second referring to a matter which does not come in conflict with any part of the code of ethics.

Resolved, That so far as relates to the Medical Society of the Alumni of Georgetown College, it has been shown to us that the Society has sixty resident members, and is therefore entitled to six delegates.

In regard to the third proposition, relating to the National Medical Society, Howard University Medical College, the Freedmen's Hospital, and the Small-pox Hospital, we recommend the following:

Resolved, That the duties of the Committee of Arrangements, so far as relates to the registration of members, are purely clerical, consisting in the verification of the certificates of delegates, and a report on the same. If credentials in proper form are presented from any society or institution possessing such organization as would place it *primâ facie* in the list of institutions enumerated in the constitution of the Association as entitled to representation, but against which charges have been made or protests presented, the names of delegates presenting such credentials, together with the charges or protests in the possession of the committee, should be presented to the Association for its action.

Resolved, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia have been so far sustained that we recommend that no members of that society should be received as delegates at the present meeting of this Association.

N. S. Davis,
H. F. Askew,
J. M. Keller.

Dr. Alfred Stillè, of Pennsylvania, then submitted the following minority report:

The undersigned members of the Committee on Ethics, while subscribing to the greater portion of the report of the majority, feel it their duty nevertheless to dissent from the final resolution recommending the exclusion of the members of the National Medical Society of the District of Columbia from the present meeting of this Association; they offer, therefore, in lieu of that resolution, the following:

Whereas, The Institutions excluded from representa-

tion by the action of the Committee on Credentials, viz: the National Medical Society, the Howard Medical College, the Freedmen's Hospital, and the Small-pox Hospital, are regularly organized as the constitution of the Association requires; and, whereas, the physicians so excluded are qualified practitioners of medicine who have complied with all the conditions of membership imposed by the Association; and, whereas, in the judgment of the undersigned no sufficient ground exists for the exclusion of such institutions and physicians from this Association; therefore,

Resolved, That the institutions above named are entitled to representation, and that the physicians claiming to represent them are entitled to seats in the American Medical Association.

ALFRED STILLÉ,
J. J. WOODWARD.

Some excitement prevailed after these reports had been read, and several motions were made simultaneously. Although the yeas and nays were called on the question of rejecting the minority report, the vote was as follows: Yeas, 107; nays, 85. The minority report was therefore laid on the table.

A motion was made to adopt the report of the majority. Carried.

The Association then adjourned until Friday morning.

At eight o'clock P. M. the dome of the Capital was illuminated, and at nine o'clock Mayor Bowen and Mrs. Bowen received the delegates at their residence.

FOURTH DAY—MAY 6, 1870

The Association was called to order at twenty minutes past nine. The reading of the minutes was dispensed with, except that portion pertaining to the final vote of yesterday, which, on motion of Dr. Curtis, of N. Y., was amended to read as follows:

"A motion was then made and seconded that the report of the majority of the Committee on Ethics be adopted. Upon this motion a *vivà voce* vote was taken, and the chair decided that the motion was adopted, when two members immediately called for the yeas and noes. Pending the putting the question to the Association of whether the call for the ayes and noes be sustained, the meeting adjourned."

Dr. J. J. Woodward, U. S. A., offered as a substitute for the resolution of yesterday, regarding the duplication of photographie views of tissues made by himself, the following:

Resolved, That the Surgeon-General be requested to authorize Dr. Woodward to make copies of his photo-microscopic slides, to be distributed at a fair price to snch medical colleges and institutions as may desire their use. Adopted.

The Seeretary, Dr. W. B. Atkinson, read a report from the Committee on Ethics regarding the admission of delegates from the Philadrlphia Woman's Hospital and Woman's College.

The question of the eligibility of such delegates caused a lively discussion. Dr. Hartshorn, of Philadelphia, spoke in the affirmative. Dr. Cohen reminded the Association that if they admitted these delegates they could not consistently refuse admission to women from the same institutions.

Dr. Jones moved that the subject be indefinitely postponed. Carried.

Dr. Palmer, of Maine, offered a resolution of inquiry as to why the Howard Medical College had been excluded from admission to this Association, stating that the institution had been chartered by special act of Congress, and was recognized all over the country as a first-class college.

A discussion took place on the adoption of the resolution.

Dr. N. S. Davis, of Ill., said if the resolution was withdrawn he, as chairman of the Committee on Ethics, would give his reasons in writing why the institution was excluded.

The resolution was withdrawn.

Dr. R. J. O'Sullivan, of N. Y., offered the following:

Whercas, Apothecaries are accustomed to renew medicines prescribed by physicians without due authority from the physician, thereby doing much injury to patients, and by which many lives have been destroyed; and as apothecaries are unwilling ty discontinue the practice exccpt by a general action; therefore,

Resolved, That this Association take such action as will bring about the discontinuance of the practice.

Referred to a special committee.

A paper was submitted protesting, in the name of one hundred and eighteen medical officers of the navy, against the adoption of Dr. Pinkney's report.

Dr. Pinkney made some remarks in defence of his report.

The protest was laid on the table.

A motion was made to refer the whole subject to a

special committee of three, to report at the next meeting of the Association. Carried.

Dr. Nichols, for the Committee on Inebriate Asylums, asked longer time to prepare a report. Granted.

Dr. Hartshorn, of Philadelphia, offered a resolution that the Constitution be so amended as not to exclude women from membership of this Association. Laid over till next year, according to rule.

Dr. Powell, of Georgia, moved, in amendment to the Constitution, that the Association refuse admission to delegates not in good standing in local societies. Laid over for action next year.

Dr. Hibberd, of Indiana, moved that the papers pertaining to Drs. Sayre and Ruppaner be referred to their local societies for action thereon. Carried.

Dr. Lee, of New York, presented a report on Institutions for the Insane. Referred to the Committee on Publication.

A vote of thanks was tendered to Mayor Bowen for entertaining the Association at his residence last night.

A resolution from committe, declaring Dr. Horace Wells, of Boston, to be the first to make practical application of anæsthetics, was adopted.

Dr. John Sullivan, of Massachusetts, offered the following:

Resolved, That no distinction of race or color shall exclude persons claiming admission to this Association who are duly accredited thereto.

Laid on the table by a vote of 106 against 60.

SPEECH OF DR. JOHN SULLIVAN.

Mr. President and Gentlemen of the American Medical Association: I rise to offer a resolution, which I venture to affirm is one of the most important which has ever been presented for the consideration of this body. I will not deny that, in part at least, this association was organ- for social purposes, *but its main objects are those which I have indicuted.*

Why is it, gentlemen, that you ostracise no qualified persons save persons of this one color? Why do you entertain an inveterate hostility to the Ethiopian being represented here, and yet, as we all believe, make no objection whatever to those whose complexion betrays their origin from some one of the other four great divisions of the human family? *For my part, I am satisfied that our friends from the South greatly mistake the nature of their*

feelings toward the negro. There is a mass of living evidence which renders irresistible the conclusion that however much they may dislike the black man, toward the black woman they entertain, many of them, the liveliest fvelings of our nature.

For my part, I would not refuse to admit to the deliberations of this great scientific body, provided he came duly accredited thereto, an ourang outang with a tail ten feet long; and could he show me an interesting case of disease of that tail, I should be very ready to examine that case with him, and to receive all the light which his experience could shed upon it. I would say to him "God speed" in his effort to heal on scientific principles the diseases of his brother babboons. But I am told, gentlemen, and you may be told, by our brethren from the South, that it is the social element of this organization which lies at the bottom of their opposition to the admission of the African to this floor. As one of them has said to me, If Julius Augustus Cæsar presents his credentials and becomes entitled to a seat here, we must meet him, not only on this floor, but elsewhere—at the Mayor's reception, or at any other place where we meet as gentlemen for recreation or for social intercourse with each other. He may bring with him his wife and children, and we may bring with us our wives and children, and *they* will have to meet on terms of social equality Mrs. Cæsar and all the little Cæsars. And this, say gentlemen from the South, is a bitter pill to swallow. It *is* a bitter pill to swallow, I admit; but is it any worse, any harder, any more humiliating, any more cruel for *you* than it is for *us?* Are not we, too Caucasians? Do we ask you to taste the cup which we are not ourselves forced to drain? Who and what are *you* more than *we?* There is as good blood in New England as there is in the South, in Massachusetts as there is in Kentucky. Two hundred and thirteen years ago, this year, if I rightly remember the date when he landed on these shores, my original ancestor in this country first planted his feet on New England soil. Who is he? (pointing to Dr. Yandell, of Kentucky). Gentlemen from the South, in God's name, who are *you* who dare to affirm that to meet the African on terms of social equality is a harde thing, a more humiliating thing for *you* than it is for *us?*

No, gentlemen, the dose we compel you to take is one which we must ourselves swallow. And now, gentle-

men, inasmuch as the political status of the African is now one with yours and mine—now that he is admitted to the Senate chamber of the United States—now that he may stand there at least on terms of social equality, and in the presence of the Chief Magistrate of this country, let not this great scientific body, embracing, as it does, with but few exceptions, the wisest men in our profession; I repeat, let not this great scientific body prove itself unworthy of the high trusts confided to its charge. Let us not deny to the enfranchised African the same rights in the Republic of letters which are now fully and cheerfully accorded to him in the political organization under which we live. Let us not deprive him of the opportunity which the sword has opened for him of proving to the civilized world, if he can do this, that inasmuch as he displays the essential qualties of manhood, he has a right to be accounted and treated as a man.

Dr. Davis read the following: In reply to the resolution of the Association calling upon the majority of the Committee on Ethics for the reason why they, in their report, excluded the delegates from the Medical Department of Howard University, they respectfully state that there is nothing in the report which directly excludes delegates from the said University or any other medical institution in the District of Columbia, except the National Medical Society.

The resolution on this subject, reported by the Committee, is in these words:

Resolved, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia, have been so far sustained that we recommend that no member of that society should be received as a delegate at the present meeting of the Association.

It will be seen that the only parties excluded from admission as delegates at the present meeting are the members of the National Medical Society. If the Medical Department of Howard University had chosen to send any delegates who are not members of that society, there is nothing whatever in the report to prevent their being received. In the papers referred to your Committee on Ethics, were a list of charges, with specifications in the usual form, against the registration of the National Medical Society. These charges may be clearly stated as follows: 1st—That said National Medical Society recog-

nizes and receives as members medical men who are not licentiates, and who are acting in open violation of sections 3, 4 and 5 of the law of Congress constituting the charter of the Medical Society of the District of Columbia. 2d—That a large part of the members of the National Medical Society are also members of the National Medical Association of the District of Columbia, and are openly and freely violating the rules and ethics of the Association to which they have subscribed. 3d—That they have both in its capacity as a society and by its individual members, misrepresented the action of the Medical Society and the Medical Association of the District of Columbia, and used unfair and dishonorable means to procure the destruction of the same, by inducing Congress to abrogate their charter. Each and all of these charges were, in the opinion of the majority of your committee, fully proved by the members of the National Medical Society themselves, who appeared voluntarily before your committee as witnesses. Therefore, if we have any regard to the maintenance of the laws of the land or the ethics of our medical organization, the undersigned could not come to any other conclusion than was expressed in the last resolution recommended by the majority of the Committee on Ethics.

Dr. Reyburn was allowed five minutes to explain:—He said he never had violated the code of ethics, and when the colored men applied for admittance to the college to which he belonged, that he offered a resolution providing for their admission. He did not think they should be excluded on account of color. His resolution was not received, and he withdrew from the society, and was one of the leading members in organizing the National Medical Society. If this was a violation of ethics, then he had violated the code.

Dr. Loomis, of the District of Columbia, said he was a member of the Faculty of Medicine of Howard University, and he could see no reason why he was excluded.

Dr. Johnson, of the District of Columbia, the President of the Medical Society of the District of Columbia, gave a detailed history of the origin and progress of the difficulties in the local societies for the information of the Association, and replied to a number of questions.

After considerable discussion, Dr. H. R. Storer, of Boston, offered the following, which was adopted:

"That inasmuch as it had been distinctly stated and

proved that the consideration of race and color has had nothing whatever to do with the decision of the qnestion of the reception of the Washington delegates, and inasmuch as charges have been made in open session to-day, distinctly attaching the stigma of dishonor to parties implicated, which charges have not been even denied by them, though present; therefore,

Resolved, That the report of the majority of the Committee on Ethics be declared as to all intents and purposes unanimously adopted by the Association.

The resolution was then adopted by a vote of 112 yeas to 37 nays; after which the meeting adjourned.

[Note.—Acknowledgment is here made of the use of the New York Medical Record and Washington papers in the preparation of this report.—E. S. G.]

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Figaro says that tobacco is a slow poison. Is this truth, satire, or wit?———Nelaton is the victim of cardiac disease, and has retired to a great extent from practice.——— Dr. Luther Parks, the editor of the Boston Medical and Surgical Journal, does not relish the Roland that he received for his Oliver. He accused the writer of making "a blast" about the negro. The reply was, that if there had been a blast it was evidently from Boston, for Dr. Luther P. had taken a horn, (what an act for one with such a name: Luther taking a horn) and it was evidently too large for him. He replies seriously—says that he is strictly temperate, and offers his nose in testimony. He is a true New Englander: he must speak through the nose.———Drs. E. R. Peaslee and Meredith Clymer have accepted vacant chairs in the Albany Medical College, N. Y. Excellent appointments.———There are eight institutions for training idiots in the United States—the largest at Syracuse, N. Y.; one of the best at Frankfort, Ky. ———Ricord has been appointed consulting physician to the Emperor Napoleon!! Napoleon's disease is said to be vesical "hæmorrhoids:" so states Nelaton.———Senator Sumner has failed to secure the repeal of the charter of the Medical Society of the District of Columbia.———The Parisians have suggested a new and efficient method of preserving milk for a long time: place in each quart bottle of fresh milk six grains of bicarbonate soda; cork tightly; place the bottle in water—bath heated to 190° F.; coat the cork with wax. Milk so prepared will keep for a very long space of time.

———Drs. C. S. Ives and A. S. Munson have given each $1,000 00 to Yale Medical College———Dr. W. A. Hammond testified that the now notorious McFarland was insane. He received in this case a large fee. Dr. Echeverria testified that he was not insane. These are the New York authorities on psychological medicine. This is their second public antagonism in New York courts. The science of medicine is proportionally benefitted.———The question of the duration of gestation has elicited much controversy. Sir James Simpson testified to a case of gestation of 310 days in duration.—[Chicago Med. Jour].——A contemporary advertises for a partner "who can stand a confinement;" how many will apply? He received an answer from six widows.———Professor Gross has recently publicly asserted "that the course of medical education has not one inch progressed in fifty years in Philadelphia."——Dr. D. Hayes Agnew has been appointed Professor of Clinical and Demonstrative Surgery in the Medical Department of the Univesity of Pennsylvania: an excellent selection. ———Roule, of Paris, states that the use of the muzzle is the chief cause of rabies: in Africa, where heat is excessive, hydrophobia is rarely seen.———The New York Sun reports the case of a man who died from a blow on the head, but at the autopsy he was proved to have "soapstone lungs!" ———The House Naval Committee is ready to report a bill which places the line and staff officers on the same footing existing in the army.———Professor Chas. W. Chancellor, of Baltimore, is said to have delivered an unusually able address before the graduating class of the Washington Medical University of Baltimore. His friends are not surprised to learn what they anticipated.———Bertholte, of Paris, reports a case of spontaneous combustion in a woman (thirty-seven years of age), addicted to the use of alcoholic drinks. ———The Baltimore Medical Bulletin is progressively improving. Its editors, Drs. Edward Warren and Peter Goolrick, will make it continuously better: it deserves support. Two dollars for this journal will be well invested.——— Baron Liebig and Sir James Watson are both ill.———Dr. E. Burke Haywood, of Raleigh N. C., has recently successfully ligated the external iliac artery.——To Dr. E. S. Gaillard and wife, March 26th, 1870, a daughter, Ellen Eyre.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

The American Medical Association.—The last meeting (there is no double meaning intended in the use of the adjective *last*) of this Body was anticipated by the members of the American Medical Profession with diverse feelings and sentiments of hope, alarm, despondency, confidence and gloom. The meeting is over, and one feels fully the reasons of the contradictory emotions and anticipations that were published in regard to it. Those who expected a creditable meeting are the victims of a bitter disappointment; while those who anticipated disgrace and disaster are (while enjoying the pleasures of correct prophecy) still overwhelmed with shame and mortification by the conduct of their brethren and countrymen. The Association, in this meeting, celebrated its twenty-first anniversary. It has fully reached the years of discretion, so that it is fairly the subject of criticism.

The Transactions of the last meeting are published in the present number of this Journal, and all who read them will be impressed with many most painful and humiliating facts. The Association is claimed to be the highest, most learned, dignified and influential Body of American Physicians. What it has done in the past to substantiate this claim can not be now, for many reasons, reviewed. What has it lately done that is creditable and respectable? Nothing! Nothing! Absolutely, nothing! What has it done that is disgraceful and discreditable? Almost all that it could possibly have done of such a nature, in the time that was allotted to its deliberations. It evaded every important issue in a manner certainly tending to forfeit every vestige of respect. The equality of the races in scientific and social association; the great questions of education; all that appertains to the published claims of specialism; ethical questions of practical and important import; many specific questions affecting the welfare and development of the profession, etc., were all *laid*

on the table with a readiness and celerity sufficient to induce spectators to suppose that they had invaded a convention of restaurant or hotel waiters, who in their attempts at deliberative action could not possibly forget the habitual association of their daily avocation. Again, there was the most puerile antagonism of legislation; Dr. Sullivan's motion to exclude the negro was tabled with a most significant and evident spirit; yet Dr. Storer's resolution to the effect that, in all of its action, the Association was entirely uninflenced by questions of race and color passed by an overwhelming majority. The Body determined to have a grand junketing on a specified day: each member to take care of himself pecuniarly as well as gastronomically. This motion (of Dr. Gross) was carried enthusiastically; the Body having an amusing weakness for any action that involved the laying of anything on the table. It was so determined, yet on that very day, when every one was prepared in purse and pepsin, for this laying-on-the-table entertainment, it was discovered that an invitation had been previously accepted to attend a reception of Mayor Bowen. So the junketing legislation, like that in regard to the negro, was also contradictory. So with other legislation, needless to mention.

Of course, the dome of the Capitol was illuminated for the amusement of the members. It was generally admitted to be a successful display of burning gas; a very pleasing and appropriate species of magic-lantern display; those i' the mood enjoying the gratuitous sport, while the thoughtful could not have avoided feeling how much more evident became the gloom now fast overshadowing the legislative halls below. The true lights of the Capitol—the pride and glory and joy of the Nation—gone from its Halls, while the light of burning gas is substituted above for the amusement of all who can be amused by such a spectacle! But to return: the Association expended an incredible amount of its time in legislating upon the private grievances of the Washington and Boston physicians; upon the claims of Drs: Cox and Reyburn, etc.; somebody too had his name upon the bill of fare of a Washington

hotel, and he or his friends had to be catechised as to the fact, etc., etc. These and kindred questions of equally scientific interest consumed the most valuable time of this valuable Body! What of interest and value was done? Of thirty-eight committees, five only reported, the others being continued for the same reason that they were, to a certain extent, originated; to give a garish, unmerited prominence to each trickster who had himself appointed chairman of a committee on a subject which possibly the committee might fully understand, but of which most probably he knows but little indeed. Many of these chairmen never report; they have neither the information nor the courage to do so; they are advertised as chairmen of committees on subjects which which, by daily practice, they make profitable to themselves; and this is sufficient. Five committes of thirty-eight reported.

The papers referred to the sections were very few; not more than a small Society frequently possesses at an annual meeting. The reunion at the United States Army Medical Museum, with the entertaining and instructive lectures there delivered by Drs. Geo. A. Otis and J. J. Woodward, must have been a most refreshing, pleasing and honorable episode in the otherwise wearisome and almost barren proceedings of the Association. The brief work of the sections and these lectures constitute the really scientific labors of this Body.

Dr. Lewis A. Sayre, of New York, had his relations with Dr. A. Ruppaner, also of N. York, referred to a special committee, but it seems that this committee could not or would not take action in the premises. There was an effort made to have the matter referred to another committee, but the Association taboed and tabled the whole subject. Dr. Sayre owes it, of course, to his reputation and character to prove that the ruinous statements made by Dr. Ruppaner, in regard to him, are wholly (not partially) without foundation.

Specialists are to be deprived of the privilege of advertising in medical journals. The Association refused to re-

consider its action (last Mav) upon this subject. Those who intend to respect the decision of this respectable Body, will act accordingly.

There is no part of the action of the Association which will cause more surprise, or rather contempt, than that in regard to education. This subject has been tinkered by this Body for twenty years, and, like the work of a tinker, the more that has been done the worse has been the mending. A year ago, the Association passed a motion, unanimously, (not, that is, by a vote of one, as was the case with every unanimous vote passed by the cheap school Convention in Louisville, May 1879, when, after electing a president and secretary, it was impossible to officer the Convention, as one gentleman had to be reserved to do all the voting) that all colleges should charge at least $120.00 for one set of Professors' tickets. This was done, not as some conveniently or absurdly assert because a course of lectures is any better or worse, if more or less be charged for it but, as the associate wisdom of the Association recognized, because able teachers will not teach unless they are well paid; such teachers recognize that there is no vestige of honor left in the office of teacher and having already a practice established, a monied reward becomes their only inducement for this enormous labor. The members of the Association present at the New Orleans meeting felt satisfied that if the Chairs in first class colleges became vacant and the fees were so small as to furnish no adequate reward to the teacher, that the vacancies would only be filled by obscure men; that such teachers could not properly instruct students, and that the great body of the profession would by this bad teaching (and the consequent overcrowding of the medical field from low fees) be demoralized and finally ruined. For these evident reasons, the Association determined that $120.00 should be the minimum charge for Professors' tickets for a single course. As the medical schools did not practically observe this unanimously expressed wish of the Association, Dr. Moore, of St. Louis, moved at the late meeting in Washington, that those

schools charging rates below those fixed by the Association, be by it repudiated. This motion was intended to test the efficiency and manliness of this Body; it was requiring its members to respect its legislation; to give to the profession a guarantee that when the Association expressed a wish or published a law, that such wishes and such laws should either be respected, or that those infringing them should be punished. What was the result? After tinkering this question for nineteen years; after definitely and clearly legislating on the subject at its twentieth session, the Association at its twenty-first session acted as though the consideration of this question was inappropriate, or, inopportune, or improper, and stultified its record of twenty years, by laying the whole question on the table. Who can ever so stultify himself as to look to this Body again for the consideration or control of educational questions? The man who does so, will receive the contempt to which his acts entitle him. Whatever be the results, in future, in regard to medical colleges, medical education, and medical teaching, it will be the very acme of absurdity to turn, even in expectation, to the American Medical Association, for aid support, consideration or relief.

The speech of Dr. David W. Yandell, (of Louisville. Ky.), upon Dr. Moore's motion, is, perhaps, the most feeble, ludicrous, contradictory and flimsy piece of rodomontade to be found in the records of the Association. He claimed that "it was contrary to the spirit of the Association and of the age to adopt a *specific* fee." though the "spirit of the Association" induced the adoption of a specific fee but a year ago. Many, who were thus charged with this stultification of themselves were present last year; they voted last year; and yet had not a word, either of offense or defense, to offer. They stood, as though convicted, and said nothing! Dr. Yandell said, "our spirit is to educate, without reference to compensation;" yet subsequently he said that he would take all that he could obtain as his reward. "Let us charge $1000.00 if we can get *it*," said he, "and $50.00 if we cannot get more."

Himself and his colleagues reduced their fees for the alleged reason of giving an education cheaply to all who wanted one, but it now seems that they charge (according to this Washington speech) $50.00, not to accommodate poor students, but because they believe that they "can not get any more." This sum is their published and declared estimate of their own services. This admission was frank certainly, but injudicious unquestionably. It is valuable, because it is historical. It is not to be wondered at, after reading this declaration, that Dr. Yandell considered it "contrary to the spirit of the age to charge a *specific* fee," for medical lectures. His principle is, as he admits, to charge the student all that can be wrung from him, and he, (Dr. Yandell), is under the impression, that in the advocacy of such principles, he is a true exponent of the "spirit of the age!!" If this be indeed the spirit of the age, to grasp all that can be gotten, it must be admitted that it had in this speaker, at Washington, a worthy exponent who gloried, rather than blushed, in the advocacy of such prineiples. If these be "the principles of the age," if its banner be indeed so debased and despicable as to have such principles emblazoned upon it, one can admire the candor and calculation, if not the character and confession of its standard bearer. The spirit of the age, is, however, far above such principles. Most men repudiate the morality which would inculcate the practice of charging all that can be obtained, "$1000.00 if we can get it, and $50.00 if we can not get more." Physicians certainly have never countenanced such principles; they have a regular fee-bill, and it is seldom that they transgress its metes and boundaries; seldom that they charge more, because they believe that they "can get it." Can there be a more debasing code of principles for colleges and physicians than that expressed in this brief extract from this brief but ruinous speech. "Let us charge $1000 00 if we can get *it*, and $50.00 if we can not get more." Who, that respects himself, would enlist under a banner with such an inscription!!

But it is proper and interesting to examine further a speech

which caused the American Medical Association to lay on the table a subject which it had turned, and tinkered, and tattled about for twenty years.

Dr. Yandell further stated that he "ignored the Latin and Greek!" Yet he was an active member of the Convention which eulogised the advantages of the Ancient languages and which, in Cincinnati, declared that all matriculants should possess a knowledge of them. "He went in" he said, "for the English, and he knew of many Latin and Greek scholars who could not write or speak good English." Now a superficial analysis of this sentence will show that the argument against the classics is not specially lucid or formidable, and that one who "goes in" for the English, may show the wisdom of his act, while manifesting the grossest want of wisdom in his mode of describing it.

Again, Dr. Yandell repudiates the principle of charging a "specific fee" for the service of medical tuition; yet, in common with all respectable physicians, he recognises not only the principle of establishing a "a specific fee" for the service of the physician in his labor for the general public, but censures any physician who is false to his obligations in this connection by underbidding those in competition with him; every physician who runs counter to the principles of establishing "a specific fee;" every physician who runs, counter to his brethren when they have established "a specific fee." If the Association can and does provide for the establishment of a "specific fee" for service rendered to the public at the bedside, by what principle of reason, logic or common sense can it refuse to establish a "specific fee" for services rendered to the public in the lecture-room? If the Association repudiates those who underbid their brethren in one case, by what principle of reasoning can it refuse to repudiate (as Dr. Moore's motion provided) those who underbid their brethren in the other? Is one act less censurable than the other?

According to Dr. Yandell, the laws regulating supply and demand should govern the price of lectures as they

govern "the price of beef." Does any physician recognise this law in medical service? Does any practitioner charge less as the supply of his patients increases? Is it the medical schools having the largest supply of students that charge least, or is it those schools who have the least supply of students? Every one knows that where the supply of students is greatest the charge is largest, and that where the supply is less, the charge is least. The law of supply and demand evidently does not sustain Dr. Yandell by any possible method of application. Dr. Yandell further apologises for low fees by saying that expenses in different places differ largely. Does any one in his senses suppose that the cost of living in New York is three times greater than it is in Louisville or Cincinnati? This is a pretext, not an excuse; still less is it a reason. It is certainly novel for a medical man to assert that the laws of the lecture market should be the same as those obtaining in the market "for beef!" The public may and do term surgeons butchers, but it is novel for one professing to be a surgeon to admit the justice or applicability of the charge! The lecture market has been, it must be admitted, degraded by being subjected to the underbidding competition which obtains at the butchers' stall or shambles, but those in the lecture field are not yet prepared to admit that their material like the material of the huckster and butcher, is to be governed by the "same laws" or sold on the same principles. Even the butcher has some respect for his price; he may reduce it fractionally, but the world will look in vain among those who sell "beef," for one who will subscribe to the principles advocated and sustained on the floors of the American Medical Association "let us charge $1000.00 if we can get *it*, but $50.00 if we can not get more." It was after such a speech that the Association laid on the table a subject over which it has labored for twenty years !!!

Dr. Sullivan's speech will certainly astonish the logicians among his Boston brethren. Its argument may thus be correctly analyzed. We physicians of the North *please* to take a nauseous pill (frankly acknowledged to have been always gilded), the negro.

Puritan blood is as good as any Southern blood, and if we *can* take this dose, why should not you be *made* to take it? In other words, if Boston *pleases* to take this pill why should not the South be *compelled* to take it? Surely, if Boston takes a purgative, it is fair that the entire South should be incarcerated in the water-closet.

The reply to all this is simple. Southern physicians are worn-out with the ceaseless agitation of the negro question. Scarcely had Southerners paid, in gold, their Northern brethern for Northern negroes, when this agitation was commenced. It never ceased, even temporarily, until the South was bankrupted; her citizens ruined; her soil drenched with blood; her homesteads and fields billowed with graves! The South will not lift (at least for the present) the pall which covers so terrible, so horrible a bier! Let it rest. Southern physicians are the truest friends of the negro; they understand and fully appreciate him; they will defend him and protect him; they will educate and develop him; they will give him every legal right to which he is entitled; they will make a good citizen of him; they will guard and advise him; but they will never make "an associate" of him.

A Boston physician, of the name of Sullivan, recommended, in a Boston Medical Society, that a virgin suffering from nymphomania should be continuously violated until she was relieved of her trouble. Was this advice given by the author of this Association speech, or is Boston fortunate in having two distinguished physicians by this name? That portion of his speech which is italicised is too gross, too unclean for criticism.

Upon the motion of Dr. Mussey, of Cincinnati, the Association is hereafter not to meet on alternate years at Washington. This provision was made originally for many reasons; the most important being that a library could there be accumulated. Acting upon the expected stability and consistency of the Association, many hundreds sent books to the Library of the Association; it was, (if all said or written could be believed), to rival the great Alexandrian Library. What is now to become of the Library? Physicians who respect the record of the Association will never consent to its meeting again in Washington; what therefore is to be done with this library? That genial gentleman, Dr. Toner, is left alone with it. As the public asked of gentleman Waif, in regard to his trick-dog, so the public may ask of Dr. Toner in re-

gard to his library, "what will he do with it?" It is at least in excellent hands, and the writer is willing that he should have it, on one condition, that he will manage it in the future, as well as he has done in the past.

The Association is to meet next year in San Francisco. For two blessed years those in the United States (of former times) are not to hear any more of it, or from it, or to be any more troubled with it! Whether the Association goes to San Francisco to admit the negro; or to admit the Chinaman; or some of Dr. Bell's friends, the Scandinavians, there resident; or to indulge in penitential seclusion for late gross misdemeanors—misdemeanors greater than those ever observed at the ward meetings of small-beer politicians; who can tell? As a Body, it has forfeited all right to allegiance, to respect; to recognition, as a ruler, counsellor or guide. Where it goes or when it goes, where it stops, or whether it ever returns are unquestionably, to nine-tenths of the profession, questions of profouud indifference. If it is pleased with junketing across the country at half-rates; if it is pleased with the Pacific slopes; if it finds employment sufficiently lucrative there to warrant a permanent emigration, all who wish it well will be pleased to have it do what will please and profit it. The thoughtful and best men in the medical profession feel that the mission of this Body has grossly, ruinously, ludicrously failed. It is simply now a question of time, reflection and active co-operation for the creation of an efficient, active, fearless Body which shall supersede that that nerveless, anomalous, "spineless" organization—The American Medical Association.—E. S. G.

Medical College Convention.—In May, 1867, this Body met at Cincinnati; it determined that matriculants should be classically educated; that a college term should consist of six months; that there should be four terms; that there should be three classes; that there should be thirteen Professors. After notoriously disregarding every one of its own acts, this Body assembled at Washington, D. C, early in

May, according to notice previously and generally given. Of all the conventions which have assembled in recent years (the cheap school convention, which met in this city last year excepted), this has certainly been the most impotent and ridiculous. Much time was spent in debating whether a proficiency in the Greek and Latin languages should be required of matriculates; not one of the delegates ever expecting, of course, to insist upon such a proficiency, or expecting that colleges would ever entertain such Utopian considerations. After the usual expenditure of time and words, it was, of course, heroically resolved, that a knowledge of these languages was highly useful, and that medical colleges should, for themselves, decide this and similar questions. How vain and impotent a conclusion! If the dignitaries composing this convention had resolved that a voyage to Europe was a very pleasant excursion, and that those determining to enjoy it, must get into a boat for the purpose, their legislation would have been equally sensible and relevant; not less respected and certainly as original and valuable. The classic aphorism, "*montes parturiunt et nascitur ridiculus mus,*" has long been a biting sarcasm used as a comment on all similar occasions, when the pretensions have been gigantic, and the results microscopic; but, as applied to this medical college Convention, it would be not a satire, but, strange to say, the most *fulsome flattery;* for, in this case, there has been a fussy gestation, a tedious and noisy labor, but, sad to relate, there has been nothing whatever born! It has been a case of official physometra, or wind-pregnancy, and the existence of this disputed condition can now no longer be questioned. When Mr. Samuel Johnson was about to publish the first edition of his great Dictionary, it was with great difficulty that his friends could prevent his giving as the meaning of the word villain, the Lord Privy Seal of England. It is respectfully suggested, that the editor of the next Medical Dictionary issued, give as the meaning of the term physometra, the American Medical College Convention of 1870. If any one could take pleasure or others could receive

profit from the work, it would be easy to cover those who participated in this Convention with obloquy, absurdity and disgrace, by comparing their recent action with their past amusing promises and pretensions, ludicrous garrulity and empty gasconade at Cincinnati in May, 1867, when this Body originally met, and commenced an incubation whose offsprlng proves now to be so amusingly like the bird of Diogenes, *a full grown goose stripped of its feathers.* There are many texts for the "Now and Then," in our Profession, and none that could be made more suggestive, though humiliating, in results, than a history of this wonderful Convention—*It was profitable to promise, it was dangerous to fulfill;* hence any analyst of this Body, anticipated that there would be all promises, but no fulfillment. It is not charitable to write thus, but it is just and necessary to do so. These gentlemen who climbed this lofty eminence and have fallen so disastrously will, it is hoped, use all philosophical tolerance under the just comments of the Profession; recollecting that theirs is no solitary absurdity; that it has often been thus afer the pretentious promises of overly ambitious men; who must always read, in regard to themselves, what Claudian so well wrote of their distinguished prototypes—*Tolluntur in altum ut lapsu graviore ruunt;*" which may be thus liberally translated—*those who will climb into high places must expect to be hurt when lhey fall.* What, however, was the result of the deliberations of the Convention? To cap the climax of absurdity, this Body appointed a special committee charged with the elimination of the obscurities which like a cloud had so ludicrously overshadowed and perplexed it. When the wagoner, of classic memory, found his wagon "fast in the rut," he knelt down and prayed to his father, Hercules, to come to his aid; all remember the result; he was commanded to go to work *honestly and faithfully*, and he would need no help. When this Convention wagon (with a team amusingly too weak to move it, and loaded with an intolerable burden, its own archives) stuck on the dangerous road selected, its owners seemed to take warning by the fate

of the classic driver who prayed to his father, so they prayed to their sons, their committee, to extricate them and enable them to get safely home once more. Whether this prayer is to be regarded as a compliment to the children in their being expected to do what the parents could not accomplish, or whether it is to be construed as a satire upon the parents, in asking the children to do what they confessed themselves incompetent to execute, is to be determined upon by each reader, as charity or pity may with him exert the greater influence. There is one piece of wisdom, however, displayed in this committee arrangement that should relieve this Body from entire contempt; the wisdom consists in this, that by such action the wagon, its owners, and its freight were certainly enabled to get home again; where, it is hoped, for the good and glory of all concerned, "the demnition total," (as Mr. Mantalini would say) will be content permanently to remain.

NOTE.—The proceedings of this Body will be published in the next number of the Journal, not as a matter of interest but of history.

SIR JAMES Y. SIMPSON.—The scientific world, as well as the world of medicine, will hear with profound regret of the death of this distinguished physician, this profound scholar and noble man. He died in Edinburgh on the 6th of May, 1870. His life, his deeds, his character, have become one of the most valued heritages of our profession, and it is of itself a grand tribute to the science of medicine that its honest pursuit should have produced such a man.

Professor Simpson was born in Bathgate, 1811; he was educated at Edinburgh, graduating there in 1832, with great honor. Being an assistant of Professor Thomson, the material then collected was embodied in "Simpson's Obstetric Memoirs." In 1840 he was elected Professor of Midwifery in Edinburgh University. In 1847 he first produced insensibility during labor, by using sulphuric ether. Morton applied this anæsthetic in dental surgery, during the same month. Soon after he discovered the great anæsthetic power

of chloroform and introduced its use to the notice of the profession. In 1849 he was elected President of the Royal College of Physicians, and in 1852 President of the Medico Chirurgical Society. In 1856 he received the Monthyon Prize of 2,000 francs. In 1866 he was created a Baronet. His chief works are his "Obstetric Memoirs;" his "Essays on Anæsthesia;" his "Treatise on Homœopathy;" with many contributions to journals and societies. Those who lived nearer to Sir James Simpson, will no doubt soon give to the reading public a sketch of his life; and it is considered better to wait and give to the readers of this journal a biography really valuable, rather than from the comparatively meagre data accessible to present a record, which, at best, must be superficial and insufficient, and therefore unjust.

It would have been well if the physicians at the late meeting in Washington could have been in this respect more prudent and judicious. As it is, their proceedings can not but give pain to the relatives and friends of Dr. Simpson, while it must be plainly confessed that they bring shame and mortification to the physicians of America.

This meeting was composed chiefly of the physicians of Washington, with the addition of many medical gentlemen who had gone thither to attend the session of the American Medical Association. Their proceedings even in connection with so serious a subject. it must be confessed were of the most painfully ludicrous character.

Dr. Storer, of Boston, after a few remarks, usual on such occasions, offered resolutions, with a preface that must excite unseasonable mirth among even the most ascetic and lugubrious—"Whereas, it has pleased the Giver of both mortal and eternal life, to call unto Himself His good and faithful servant, *known upon earth*, as Dr. James Y. Simpson, of Edinburgh; therefore, resolved, etc."

The indisposition of Dr. Storer to hazard any statement as to the name by which Dr. Simpson may be identified hereafter, evinces a spirit of non-committal caution, which, common enough in the legal or political arena, is, it must be

confesssed, without a parallel in the generous archives of condolence or the unrestricted expressions of sympathy. Again, if names are to be ignored hereafter as is implied, it would have been at least just if not generous to have said that the distinguished dead was known upon earth as Sir James Y. Simpson. To rob a friend of probable personal identification hereafter, and of his distinguished title here is certainly questionable eulogy in an obituary.

Dr. George A. Otis then delivered a short address, in which he entered con amore into the respective merits of the Boston controversy, respecting the claims of Wells, to be the discoverer of anæsthesia. He put in a plea for Sir Humphrey Davey, but whether the honor be awarded to Wells or Davey, it must be admitted that the most discriminating audience must have failed to detect in what way either decision could be regarded as eulogistic of Dr. Simpson. The spirit and tenor of Dr. Otis' address were so apropos to the occasion that he amplified this by informing his auditory that he could not approve of the action of the American Medical Association in ascribing to Wells the claims which the friends of this unfortunate gentleman had urged in his behalf. He also added in eulogy of Dr. Simpson, that he could not agree with many Boston and Philadelpia friends, in the assumption that chloroform was more dangerous than ether, and he closed this most happy tribute to the memory and virtues of Doctor Simpson, by stating that he had been informed by Langenbeck and Stromeyer that no death had occurred from the use of chloroform in the Austro–Prussian war.

Dr. C. C. Cox next offered a few remarks, which, to say the least, were of a novel and most extraordinary character. He spoke of Sir James Simpson as the Mæcenas of Edinburgh—a terrible blunder, and indeed an insult to the dead. Mæcenas patronized scholars, but notoriously for political purposes, that they might serve his master Augustus: he was indolent, a sybarite, a glutton and wine bibber; effeminate, badly educated, without esteem in private life, frivolous and a sloven; certainly a most remarkable eulogy for

Sir James Simpson. Dr. Cox, however, intended, by this comparison, to draw attention more especially to the hospitality of Dr. Simpson. His table was excellent, he said, and his breakfasts seemed more especially to have made an ineffaceable impression upon the speaker, etc., etc.

These speeches are certainly as remarkable as were the proceedings, and this proves their most extraordinary character. If they were relevant or appropriate, those who read them are certainly unable to discover the fact. Indeed they suggest to the reader, most ludicrously the notorious composition of the school-boy on animals: after expatiating on topics entirely foreign to the subject, he made the following peroration, which reads remarkably like a part of the published proceedings of this Washington meeting: "Most persons," said he, "prefer the elephant, but give me the stars and stripes and also the American eagle."

What is most remarkable is that those who were present at this memorable meeting appended their signatures to the proceedings. It certainly appears that it is only necessary for any one to attend any meeting in Washington for him to lose his judgment and capability, and he is fortunate if he returns home with his self-respect and the ordinary respect of others. The three meetings of physicians there in May render this remark just and unavoidable.—[E. S. G.

Honorable Testimony.—This Journal has for years been conducted with no other capital than the implicit confidence of the editor in the fair-dealing and generous support of his medical brethren. Without the capital of a dollar, he has, relying upon the good faith of his brethren, never hesitated to contract the heaviest pecuniary obligations for the publication of this work, and he has never relied upon this good faith in vain. Be it said (and would that this could be published by every paper in the world) that American physicians have, under all circumstances, been true and faithful in discharging their obligations to a professional brother. It has been said that there is the free-masonry of mutual protection and support among physicians, and there is here given a noble evidence of it. With nearly one-half of the country

in destitution and comparative ruin—with their patrons brankrupt and themselves impoverished—the American physician has been true to his patrons by improving his professional acquirements; he has been true to himself by study and the cultivation of his professional resources; he has been true to the medical press, by discharging his monied obligations to it, and sustaining the laborious and persistent efforts made to develop the periodical medical literature of his country. There are many letters on file in the office of this Journal, which show that their writers have deprived their families of the necessities of life, in food and clothing, to dischage their debts for subscription to this work. All honor then to those who deserve the highest honor. This is indeed a record which will cause every generous and noble physician to be proud of his brethren; that, bankrupt themselves, with their patrons ruined, they have so sustained a professional brother, that—without the capital of a dollar, and while wealthy mercantile and commercial houses have disastrously failed—he has been enabled for years to sustain an expensive and confessedly hazardous enterprize. His Bank has been his confidence in his medical brethren, and this Bank has been solvent from the day on which its operations were commenced. All honor to the masonry of medicine. Its members are masons not only in spirit, but in deed and in truth. May this testimony be known to every physician.

This number closes the ninth volume of the Journal. The editor pledged himself to give for this volume six numbers of 112 pages each, making in the aggregate 672 pages: he has given 784 pages, or one whole number additional. The six last numbers of the New York Medical Journal contain, in the aggregate, 692 pages. That journal is advertised as the "largest medical monthly on this continent." This journal contains on its title page this statement: "THE LARGEST MEDICAL MONTHLY IN AMERICA." When this statement is incorrect it will be withdrawn. The editor returns his earnest thanks to the supporters of this Journal. He asks a continuation of this support, and that the friends of the Journal will strengthen it and develop it further, by using their influence in inducing their friends to subscribe. Some subscribers have secured 40 subscriptions, some 30, some lesser numbers: every subscriber can exert great influence if he determines to do so. To each subscriber the editor returns his earnest thanks, and pledges his best

efforts to make a full return for the support and aid extended to him.

Four Sentences.—I. It has been often claimed in this country, that, in Europe medical education is given gratuitously: in the May jounrnal it is proved that a good education there costs the recipient $380 00 in gold.

II. Last Spring the Louisville physicians had "a little unpleasantness:" the Cincinnati press—medical and secular—teemed with reprobatory articles; now, "peace reigns in Warsaw," while the Cincinnati Turveydrops, those models of deportment, are contributing, through the daily papers, chapters of billingsgate to English literature.

III. On page 633 of the May Journal, for sonscrip read sanscrit.

IV. Special attention is called to the advertisement of Mr. D. Onken, in this journal: he has lithographed the portraits in the five last journals: this is sufficient testimony in his behalf, but it should be known that his work is equal to the best done in New York, and that his prices are far more reasonable. He is worthy of a generous support and must obtain it.

BOOKS AND JOURNLAS RECEIVED.

Annual Catalogue of Washington University—1869-70. Baltimore Md.: Sun Book and Job Printing Office. 1870.....University of Maryland—Sixty-third Annual Circular of the School of Medicine—1870-71. Baltimore, Md.: Kelly, Piet & Co. 1870.....Correspondence Concerning a Fatal Case of Placenta Prævia. By Chas. E. Buckingham, M.D. Reprinted with an Appendix, by D. Barnard. Boston: National Press. 1870.....The Men who Advertise; American Newspaper Rate Book and Directory. New York: Geo. P. Rowell & Co. 1870..... Gray's Anatomomy—Descriptive and Surgical. By Henry Gray, F. R. S. Philadelphia: Henry C. Lea. 1870.....Renal Diseases; a Clinical Guide to their Diagnosis and Treatment. By W. R. Basham, M.D. Philadelphia: Henry C. Lea. 1870.....Transactions of the Minnesota State Medical Society. St. Paul Pioneer Book and Job Printing Co. 1870.....Catalogue of the Iowa State Normal Academy of Music. 1859-70. Iowa City, Iowa....."The Remedies We Use." Nashville: Gamble & Co. 1870.....Physical Basis of Life. By B. H. Huxley, L.L. D., F. R. S. New Haven: Chas. C. Chatfield. 1870 ..... The Correlation of Vital and Physical Forces. By Prof. Geo. F. Barber, M.D., Yale College, New Haven. Charles C. Chatfield. 1870. .....De L'Aspiration Pneumatique Sous Cutanée. Par le Dr. Georges Dieulafoy. Paris: Victor Masson, et Fils. 1870.....Physiology and Pathology of the Nervous System. By Meredith Clymer, M.D. New York: D. Appleton & Co. 1870.....Chambers on Indigestion. By Thomas King Chambers. Philadelphia: Henry C. Lea. 1870..... Three Cases of Imperforate Anus. By J. H. Pooley, M.D. Yonkers, N. Y.: Reprinted from the American Journal of Obstetrics, May, 1870. .....Sarcomatous Fibroma of the Upper Jaw. By R. A. Kinloch, M.D. Charleston: Walker, Evans & Cogswell. 1870.....Supplement to the May Number of the Gynæcological Journal of Boston—A reply to Dr. Bigelow's Second Letter. By Sir James Y. Simpson, M.D.